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Miller Freeman.....President
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Albert Wilson.....Editor
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Lucile Ayers.....Assistant Editor
W. E. Crosby.....Forestry Editor

Publishing Office

71 Columbia St.....Tel. MA. 1626

EASTERN HEADQUARTERS

NEW YORK (17)

Nard Jones.....Associate Editor
370 Lexington Ave. (120 East 41st St.)
Tel. Murray-Hill 3-9295

SOUTHERN HEADQUARTERS

NEW ORLEANS (12)

Wm. J. Krebs.....Southern Editor
(400 Baronne Bldg.)
305 Baronne St.Tel. Magnolia 4808

CANADIAN HEADQUARTERS

VANCOUVER, B. C.

Charles L. Shaw.....Canadian Editor
675 W. Hastings St.....Tel. Marine 1520

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124 W. 4th St.....Tel. MU. 8194
Karel Wegkamp.....Denver 2, Colo.
711 Colorado Bldg.Tel. KE. 6051

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Prepare for Der Tag

HOW to prepare for a deflationary period?

Streamline—reduce production and extraneous costs—entrench yourself with good customers by giving real service and consideration—collect those old debts—

This is a symposium of the advice garnered from some top flight pulp and paper industry executives with whom this magazine's widely traveled editors have been talking of late.

It is reassuring to consider the remark of one paper mill manager, who recalled to PULP & PAPER INDUSTRY that in the pre-war depression there was only really one year of depression for this field. Other industries suffered worse—were on the skids a much longer time.

Whatever comes, here's hoping your Christmas will be a happy one and your New Year a prosperous one.

Write NOW—For Paper Week

THE 1947 "Paper Week" in New York—big get-together for APPA, TAPPI and other industry associations—is set for February 23 to 27.

Get your reservations in early. Come February, it is hoped New York hotels will do a little better by representatives of this industry than they have done of late. In certain mid-Manhattan hotels which have had their business for many years, some prominent paper industry executives were recently treated pretty shabbily regarding reservations.

We Claim a Record

OUR November issue set some kind of a record, we think. It carried articles and exclusive photographs sent in by our own staff from four big TAPPI meetings in four widely separated areas of the country—New Orleans, Detroit, Milwaukee, and Portland, Ore.—and a summary and forecast of Canadian events by an editor who traveled across the continent.

For the man who wants to "run as he reads," or "read as he runs," but who can't afford to overlook anything of importance going on in this industry—whether it happens on the East Coast or West Coast, or Canada or the Deep South—we respectfully suggest that November issue is worth looking into. We congratulate our staff—one of the "travelingest" staffs in any industrial field—for a swell job of summarizing and presenting intelligently the important things going on in every region of this industry.

In This Issue —

Three Important Illustrated Features on Industry Expansion
By Our Own Editors in East, West and Canada, at:

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Above articles describe new KVP Mill, St. Regis Expansion and New Hydraulic Barker and Chipper for Weyerhaeuser Timber Co. Cover Picture is described on Page 24. Other features:		
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In latter section are articles on Southern tree planter; Observations in Norway and Sweden; Superintendents Meetings, etc.

Crossett's Closed Headbox With Pressure Inlet—South's First



One of the important topics of discussion at paper industry meetings in north, south, east and west these days is the improvement of headboxes and inlets for distribution of stock to Fourdrinier wires or cylinder molds.

Four of the major paper machine manufacturers have developed new headbox and slice or pressure inlet mechanisms. Speeding up of machines, the use of new fibers and the higher demands on quality have called for a great deal of investigation and engineering. Some of these devices and their actual operation results in certain mills have been described in previous issues.

An interesting feature of the mechanical equipment of the Crossett Paper Mill Division of Crossett Industries of Crossett, Ark., is the closed headbox with pressure inlet which serves the Bagley & Sewall kraft paper machine there. This headbox is shown in the accompanying illustration.

When K. O. Elderkin, manager of the paper division, came to Crossett he already had behind him the en-

CLOSED HEADBOX AND PRESSURE INLET especially designed for the Bagley and Sewall machine at the Crossett paper mill at Crossett, Arkansas. K. O. Elderkin, manager of Crossett's Paper Division, designed it.

gineering sheepskin from McGill University and experience with high speed production on news machines in Quebec and Newfoundland.

There was no pressure inlet operation in the South, so Mr. Elderkin determined to put the Crossett operation out in front. After doing the pencil work, the conventional headbox was taken from the Bagley & Sewall machine and changed to suit the conditions of operation. Redesigned, the closed headbox and pressure inlet were put to work on July 4, 1945, and since then the machine has produced 40-pound kraft stock at 1600 feet per minute; and 35-pound kraft bag at 1450 feet per minute. The paper machine is a 210-inch, 196-inch trim unit. It is preceded by Miami jordaners.

Carl Plumlee, who succeeded the late E. A. Newman as paper mill superintendent at Crossett, formerly was at St. Helens, Ore.

Expansion in Tacoma; St. Regis Men Tour South

Plans for expansion at the St. Regis Paper Co.'s operations in Tacoma, Wash., are being carried forward under direction of Walter DeLong, vice president and manager, and Justin H. McCarthy, chief engineer.

The program for converting the product of this 300-ton kraft pulp mill into multi-wall bag paper, for building a new hydraulic whole log barking plant and other additions is still pretty much in a fluid state. However, the big high speed paper machine probably will be similar to the one ordered for the new Alabama Pulp & Paper Co. at Cantonment, Fla., recently acquired by St. Regis.

In connection with his new duties, Mr. McCarthy in recent weeks made a tour of seven of the outstanding pulp and paper operations in the South and he also visited St. Regis operations in northern New York. He was accompanied on his tour by W. R. "Bill" McAdams, of the Deferiet, N. Y., St. Regis operations.

The highly practical power set-up and location of turbines right behind jordaners in one mill was of interest to them. They were impressed by the fine teamwork and organization among key men in certain mills, remarkable cleanliness in certain operations, including recovery, and a high density pulp stock storage idea as carried out at one mill.

Serving Supts.



RALPH W. KUMLER, of the Paper Chemicals Dept., American Cyanamid Co., 30 Rockefeller Plaza, New York City, who is doing an important job in behalf of the American Pulp & Paper Mill Superintendents' Association as the new National Chairman of the Superintendents' Associates and Affiliates organization.

This affiliates' group has long been a backbone of the superintendents' organization, loyally and actively supporting their activities. Mr. Kumler is giving much of his time at present to establishing fixed policies for the affiliates' participation in meetings such as those held this past month in Seattle, Jacksonville and Kalamazoo.

Blandin's Key Men Back; Campbell Asst. Manager

Blandin Paper Co., long a newsprint mill but now making pulp refining improvements in order to take a prominent part in supplying book paper needs, has an atmosphere of old times about it again with several top key men back on the job after several years of military service.

Robin A. Campbell, who served three years in the Navy, finally with rank of lieutenant, has been back at the Grand Rapids, Minnesota, mill for several months and was promoted to assistant manager under C. K. Andrews, vice president, treasurer and general manager. When Mr. Campbell left the mill he was superintendent.

Paul Smith, the veteran superintendent, has been in semi-retirement but continuing to serve Blandin in an advisory capacity. Myles Reif is carrying on as superintendent.

Charles Richardson, another

three-year Navy man and product of the Institute of Paper Chemistry, is the Blandin technical director, taking over those duties this past summer.

The chief engineer, Elroy Clark, has been back for some time after serving in the U. S. Army. George Goetz is power plant engineer.

C. K. Blandin, founder and president of the Blandin Paper Co. and former Minnesota newspaper publisher, although now 75, still takes an active interest in affairs of the company but he bought a home recently in Florida and plans to spend more time there.

The Blandin mill is famed throughout the industry for being one of the most attractive mills from point of buildings and landscaping in the pulp and paper field. It includes one of the first windowless industrial buildings. It has two Fourdrinier machines, 110 and 142 in. trim, and makes groundwood.



WILLIAM H. "BILL" DONALDSON, who probably holds some kind of a record for traveling in the pulp and paper industry from coast-to-coast over many years. His many friends in every region of the industry will be pleased to hear Mr. Donaldson has recovered from a recent illness and is back at his desk as Secretary-Treasurer of Perkins-Goodwin Co., 30 Rockefeller Plaza, New York City. Illness prevented him making his usual annual tour of the nation this time.

Erroneous Reports On Coast Mills Embarrassing to Engineer Firm

Officials of Columbia Mill Development Co., recently organized, with offices in Vancouver, B. C., have informed PULP AND PAPER INDUSTRY that reports appearing in other trade journals and a few coast newspapers stating that they are "working on plans for the erection of several new pulp mills in British Columbia" are completely unauthorized and misleading.

As a result of the publication of these reports, several inquiries have been made to this magazine by its readers, and this denial is published to answer these and future ones.

The Vancouver engineering company, as previously reported in PULP AND PAPER INDUSTRY, is headed by A. M. Ward, with J. R. Dunbar

as vice-president, A. C. R. Yuill as consultant and director and S. C. Rooney as chief engineer and general manager.

All these men have had long practical experience in the industry and it is expected that the group will play a prominent part in future developments on the coast, but they are not currently engaged in any specific pulp and paper project, and published reports that they are planning several new mills in British Columbia has caused them some embarrassment.

Canadian and Alaskan Rumors are Rife; But it Looks Like Publishers' Investment—If Any

According to best advices available to this magazine, if any pulp or pulp and newsprint mill is built in Alaska in the next immediate years, it will be done with publishers' money and not be an investment of this industry. At least right at the present, a check of several pulp and paper manufacturing companies which might possibly be interested indicates that they are not inclined at this time to invest in what would be an expensive mill and town site.

It is possible that the Republican victory at the November polls may make the outlook brighter for private investment in Alaska, as it should mean a relaxing of government patronage of so-called Indian claims and other government participation in Alaskan development.

Although officials of Crown Zellerbach

Corp. have made no recent statements of their intentions, it is quite obvious to any intelligent observer that the investments in some five figures which Crown Z is making in Camas, West Linn and other mill expansion in the states probably would preclude any similar investment in Alaska right at present. Besides, the opening up of means for extensive use of Douglas fir in their mills, as well as hemlock, has relieved a critical outlook in wood supply and is expected to put their operations in Washington and Oregon on a permanent basis.

The above resume of the Alaskan situation is still sound and up-to-date despite the optimistic statements of George Sundborg, general manager of the Alaska Development Board in Juneau, that five concerns or groups are interested in sulfite and newsprint production. He said two concerns contemplate invest-

ment of \$25,000,000 each in such mills "at the earliest possible moment."

He said, however, that "competition from a proposed Canadian development on the west coast of Vancouver Island is worrying Alaska prospects."

He said the Canadian government would subsidize this project by offering power at low cost from Campbell River, in British Columbia.

Printing Expansion Also Being Held Up

The government ban on commercial and industrial construction is holding back much printing plant construction. Additions, new plants or alterations have been blocked by the Civilian Production Administration order holding national non-housing construction to \$35,000,000 a week.



MALCOLM J. OTIS (left), Resident Manager, and ELMER E. DAVIS (right), Superintendent, who—with the fine support of their mill personnel—set a new production record during October at the 54-year-old Crown Z two-machine mill at Lebanon, Ore.

LEBANON'S RECORD

Oregon Mill Adds a Waxer

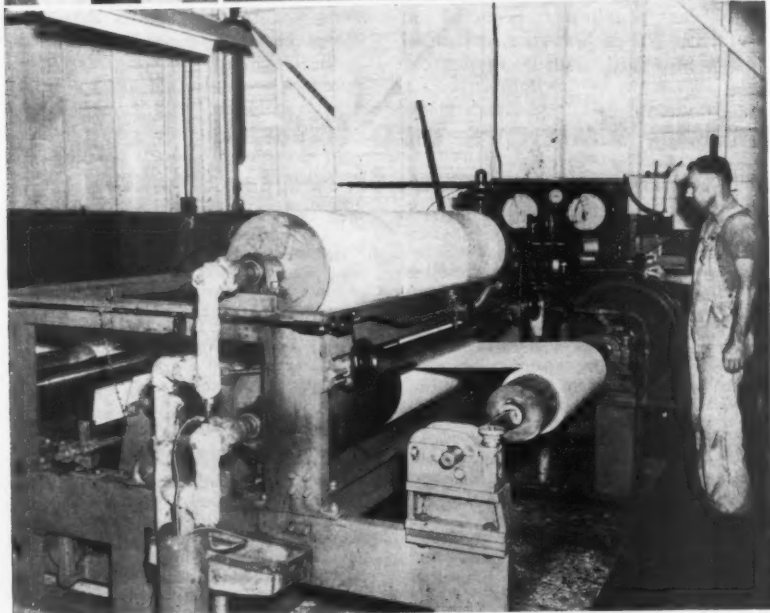
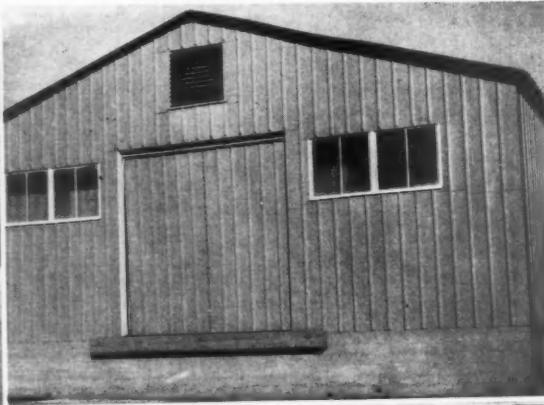
The Lebanon, Ore., division of Crown Zellerbach Corp., is another one of those pulp and paper mills located in a beautiful, lush country, where big fish can be pulled right out of the mill pond and employees hardly have to step out the back door for plenty of four-footed and winged game.

PULP & PAPER INDUSTRY's editors (lucky guys) have been visiting a lot of communities like this in recent months from the wilds of Ontario and Minnesota to the Ozark foothills of Arkansas and other out-of-the-way places—it's amazing how many "God's Countries" there are in this industry!

This magazine's call at Lebanon in the Santiam Valley of Oregon was certainly well-timed because of at least two events worth recording. One was that this small, but well-maintained and efficient, mill had just established a new production record for its 54 years' operation. In October it averaged 57½ tons a day, despite the fact that its two Four-drainers (76 and 64 in. trim) must frequently change grades to take care of many miscellaneous small Crown Z orders. That's 7½ tons above its rated capacity.

Another new event there is the installation of a waxing paper machine especially designed by its engineers. In order to make room for the machine in the plant, storage space had to be extended by addition of a prefabricated steel storage building. The machine and building are shown in pictures on this page.

The specialty waxed paper is shipped to powder plants throughout the U. S. and is used to wrap dynamite, according to Malcolm J. Otis, resident manager at Lebanon. The paper was developed at Lebanon but



Upper left: BURL SHANKS, Finishing Room Supt., in charge of new waxing operation at Lebanon mill.

Upper right: New prefab. warehouse at Lebanon.

Below: The machine—which could be called a dry waxing machine, especially made for this mill. LAURENCE MERCHANT is operating it.

formerly had been waxed at Western Waxed Paper Division, Portland, Ore. Savings are effected by concentrating the operation at Lebanon.

The machine employs a 62-inch roll, produces 20 tons in 24 hours and is similar to other machines for wax impregnation through dry or carbon waxing process.

Burl Shanks is finishing superintendent of the mill and Laurence Merchant operates the waxing machine. The prefab steel warehouse, made by Butler Mfg. Co., Minneapolis, was set on concrete floor and foundations 40 by 100 ft.

Although this is a small operation, it is a significant event for the industry as a whole, because it marks the entry of another Pacific Coast mill into a paper specialty field.

The Lebanon mill was founded in 1892 by Edward and Frank O'Neill and C. W. Callaghan, who a few years earlier had started a mill in Sequel, Santa Cruz County, Calif. The Lebanon mill was "a dandy mill, one of the best in the U. S. making straw paper," wrote Frank O'Neill shortly before his death in the 1920's.

"Later we put in another machine and a sulfite plant to make pulp out of wood," he wrote. "We made No. 1 manila and straw wrapping. My brother Ed died before we got the sulfite mill running and making manila paper. We sold the mill in 1906. I regretted to part with it. It was a fine property."

Lebanon Paper Co., a California Corp. owned by the same principals as the Willamette Pulp & Paper Co., one of the Crown Z predecessor companies, was the purchaser. Norman R. Lang was the general manager and B. T. McBain, who recently died in Portland, was his assistant.

Mr. Otis, who finished his chemical engineering education at the University of Washington in one year after being mustered out of service after World War I, went immediately into the Crown Z organization and made the rounds of their mills and also worked in San Francisco headquarters before taking over the helm at Lebanon.

He was joined there recently by Elmer Davis (no relation to the news commentator, although everywhere he goes, someone wants to know) as superintendent.

Layton L. Loftin, purchasing agent; H. C. Olds, office manager; R. D. Waddell, technical supervisor; Lauren LaFond, sulfite supt.; E. C. Leckband, master mechanic; J. O. Morris, steam plant engineer, and Burl D. Shanks, finishing supt., are others on the Lebanon staff.

HEALTHY BUSINESS INDICATED FOLLOWING OPA OBSEQUIES

Nearly three weeks after Decontrol Day, as this issue of PULP & PAPER INDUSTRY goes to press, the price picture was undeveloped and rumors were everywhere.

In New York and Boston, headquarters of big companies practically closed their doors to grapple with the price problem to the exclusion of other facets of their business. But, despite closed doors, everybody was watching everybody else.

Quotations from abroad began to drift in as soon as decontrol became a reality. Finland producers submitted a price of \$165 on bleached sulfite, and \$132.50 on unbleached. At this writing there were few takers, and observers in New York considered this a healthy sign all around. The Swedes were quoting \$120 at the dock on bleached, but little tonnage was expected from this quarter until Sweden revised its export sailings. Whatever the price quoted from across the water, the fact that foreign quotations were stirring was expected to have a quieting influence.

There were some early breaks in the line in the paper industry. Some eastern mills announced publicly a rise on bonded papers of \$25.00 per ton, and boosting cover stock \$15.00. There were some rises, too, in certain types of bags.

But by and large, at this date, the big book mills were waiting it out, practically withdrawn from the market temporarily. Competent observers believed there would be further rises, in addition to those already announced. But everybody hoped things wouldn't get out of hand because, as one executive told PULP & PAPER INDUSTRY:

"We all know that when the profit

margin gets too wide in this industry, then the industry gets shaky."

E. W. (Ted) Tinker, executive secretary of AP&PA, must have had something like that in mind when he sent a letter to the membership, under date of Nov. 12, reminding them what the Overall Advisory Committee had told OPA Oct. 30. On the latter date the Advisory Committee took cognizance of the fact that OPA officials might be fearful of decontrol, wondering if the industry, once given free rein, might take advantage of the situation and charge what the traffic would bear. The committee, Mr. Tinker reminded his members, had said that it was "sincerely and earnestly of the opinion that any such fear or suspicion is groundless."

Clearly Mr. Tinker was asking the industry to remember. "There is no doubt," he said, "that the actions of the new Congress will be influenced to a considerable degree by public opinion which in turn will reflect the viewpoint of consumers toward price movement, particularly in major industries."

Out of the temporarily chaotic condition, to be expected following decontrol, the pulp picture emerged a little clearer than that for paper. Taking bleached sulfite as an example, the quarter began with a price of \$103.50 delivered. Then on Nov. 8, OPA allowed an increase of \$4.00 on this grade, which was accepted by some, but not all, pulp companies. Under decontrol, some mills are staying with their announced price for the quarter, while others have announced new prices, which represent slight rises and vary according to whether the price at the mill or Atlantic dock or by rail.

OPA Demise Won't Affect Canadian Volume

Removal of OPA ceilings on pulp and paper won't affect volume of Canadian exports to the United States appreciably because few, if any, Canadian mills have any unsold surplus to divert wherever improved prices might be obtained. Extent of the increased price to be received by Canadian mills as a result of the ceilings' elimination is still a matter of guesswork, and operators are cautious with their predictions.

One point is definite, however. The Canadian pulp producers were not satisfied with the recent boost in prices allowed by OPA shortly before ceilings were declared off. Northern kraft price was advanced from \$83.50 a ton to \$89, unbleached, and sulfite pulp for paper grades was jumped from \$103.50 a ton to \$107.50. The increases barely covered increased costs of production, the operators claim, and they were surprisingly low in view of the recent \$10 increase in the price of newsprint, a commodity considerably less costly than most grades of pulp.

Wisconsin Mills Boost Wages 20 Cents

An average increase of 20 cents per hour has been provided since V-J Day in 23 Wisconsin pulp and paper mills. In one mill the increase was 25 cents.

Virtually the entire industry in Wisconsin is under contract with the two AFL unions. Base rate in most of the mills is now at 90 cents.



MALCOLM PINEO, who has served Scott Paper Co. in various positions in Chester, Pa., and on the Pacific Coast, has been transferred to the Brunswick Pulp & Paper Co., joint Scott-Mead mill at Brunswick, Ga., as Technical Director.

Mr. Pineo was a graduate of the University of Maine and studied at the Institute in Appleton, Wis.

He succeeds E. A. Harper, who resigned to accept appointment as the Pulp Mill Superintendent of the new kraft mill of Hudson Pulp & Paper Corp. at Palatka, Florida.

NEW KVP MILL REVITALIZES SPANISH RIVER COUNTRY

Ontario Operations Now Produce 240 Tons-Day

Enterprise and industrial know-how of the KVP organization have revitalized the whole of the Spanish River country in northern Ontario and transformed Espanola from the ghost town it became 18 years ago to a busy and progressive community.

More important from the standpoint of pulp production is the fact that KVP Co., Ltd., the Canadian subsidiary of Kalamazoo Vegetable Parchment Co. of Michigan, is currently producing at its rehabilitated and greatly enlarged and improved mill some 200 tons of kraft pulp and 40 tons of groundwood pulp daily.

And that isn't all; sometime, early in 1947, the company will have one of its paper machines in operation, producing mill rolls for another acquired Canadian subsidiary—Appleford Paper Products, Ltd., at Hamilton, Ont., a converting plant. The company plans eventually to manufacture a line of specialty papers.

In the spring of 1945 an editor of PULP & PAPER INDUSTRY visited Espanola to witness the re-birth of Espanola under the sponsorship of KVP, which had taken over the old Spanish River mill of Abitibi Power & Paper Co.

The mill, which had been used for the manufacture of newsprint, had been shut down since 1930. The KVP organization faced the problem of making the most effective possible use of what plant and buildings were available and gearing them to the extensive new productive facilities planned.



RALPH A. HAYWARD, President of KVP, Parchment, Mich., whose pulpwood utilization "dreams" of his youthful years were finally realized with the creation of the new KVP pulp mill. Also, many of his ideas for modern plant were incorporated in the new operation.

At that time R. A. Hayward, president of KVP as well as of the parent company, predicted that Espanola would be in production again by the midsummer of 1946. The company, despite all the complications of industrial programming and construction experienced by everyone these days, not only achieved the objective set by Mr. Hayward, but started partial production—of groundwood—early last spring.

Just recently, Espanola was revisited by PULP & PAPER INDUSTRY, and the striking changes wrought by KVP during the past few months

were everywhere apparent. The sulfate mill, which didn't exist at all when the plant was previously visited, was in operation this time, and so was almost every other important department of the operation. Production of full bleached sulfate pulp began during the weekend of Nov. 16-18.

Wood

KVP gets its pulpwood from various operating districts established at strategic points in the forest area held by the company. The total area of forest land acquired is 4606 square miles and an additional 1080 acres are under option—all Crown lands. The company has exclusive cutting rights for a period of 21 years, with renewal privileges. The Espanola mill's annual requirements are about 152,000 cords, of which 12,000 cords are used for groundwood, the balance for sulfate. About two-thirds of the mill feed is jack pine, the balance being spruce, balsam and poplar.

Present holdings, including option lands, are expected to support an allowable cut of 125,000 cords annually, and the purchase woods economically tributary to Espanola are judged capable of yielding a sufficient volume annually to permit KVP's purchase of the balance of its needs. This wood is bought from farmers, settlers and outside limit holders. About 40,000 cords will be obtained from this source in 1946-47.

The wood is transported to the mill by river drive, rail and truck. The drive accounts for about 70,000 cords, railroad about 80,000 cords. The longest river drive is from the Sheahan camp 90 miles from Espanola. Total cost of river transportation including towing on Lake Agnew is just over 2 cents per cord mile. Freight rates on the rail haul vary from 5 to 16 cents per hundredweight depending on distance to be traversed.

In its wood handling setup at Espanola KVP now operates a sorting gap where the wood is sorted in the log pond according to species. The log pond's storage capacity is 20,000 cords. Jack ladder and slasher are of conventional design, the wood being reduced to 4-foot lengths by the slasher saws whose capacity is

OUR COVER PICTURE

● shows the recently completed Kalamazoo Vegetable Parchment Co.'s new kraft mill on the Spanish River on the northern shore of Lake Superior.

A new sulfate mill (in center of picture), an addition to power plant, a new modern type series of chip storage silos and the high stack of Cottrell precipitator are shown. An old, long-idle newsprint plant, former properties of Abitibi company, were also used.

This new modern industry means also more than just a Merry Christmas this year for a new community in Ontario, but for many more Merry Christmases in years to come.

And it's also a practical Christmas "present" of longtime value to the city of Kalamazoo, Mich., and its suburban community, Parchment, assuring them of a successful industry, and employment and wealth for future generations, as far ahead as they can foresee.



BEN C. AVERY, Vice Pres. and Gen. Mgr. at KVP's new Ontario mill, whose association with Mr. Hayward goes back many years.

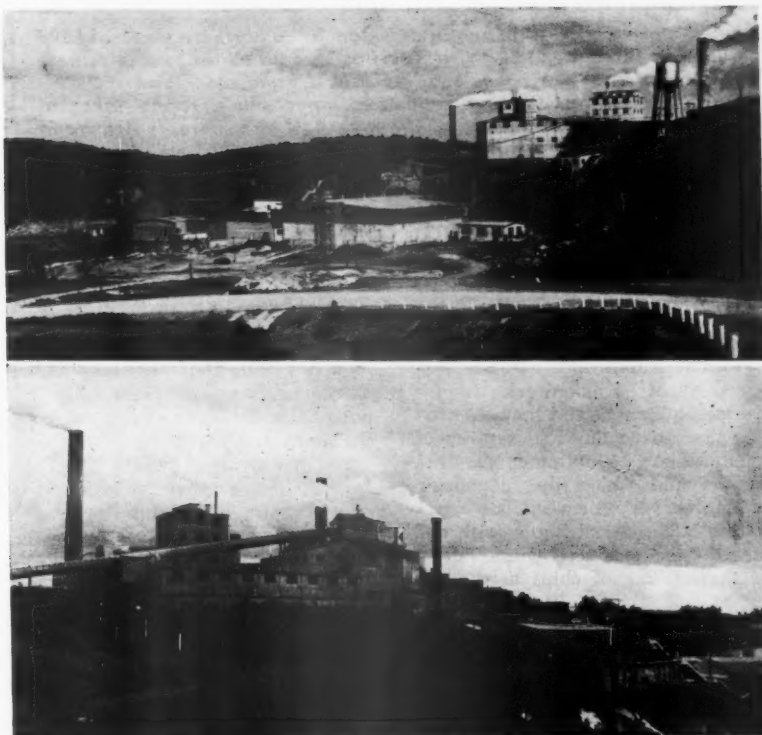
about 40 cords an hour. The barking facilities comprise two 12 x 45 Waterous drums each with rated capacity of 20 to 25 cords per hour.

Before Abitibi closed down its newsprint mill it invested a substantial sum in new conveyers and stackers for the blockpiles and these have been utilized by KVP. The main stacker is a 120-foot unit, with a smaller stacker now being erected to handle spruce wood in winter. Approximate capacity of the piling area is 75,000 cords.

There is a 10-knife Waterous chipper, with another on order for early delivery. Chip screens are also Waterous units—three of them and all of the shaker type. Three concrete storage chip bins are connected with the digester house by covered conveyer 500 feet long, designed by Otto C. Schoenwerk (3240 Lake Shore Dr.), Chicago. The conveyer is housed in an 8-foot steel tube with walkway alongside the rubber belt installed by Link-Belt, with Goodyear, Dominion and gutta percha rubber. Dominion Bridge Co. built the tube.

Oversize chips are re-chipped by a 48-inch Waterous chipper.

One of the unusual features is the arrangement of three independent silos in the chip storage bins. The belt conveyer and unloader runs across the top of the bins the bottom of which is of sawtooth design. At the bottom are star feeders which discharge on rubber belts which in turn run the whole length of the bins. This is an adaptation of the Weyerhaeuser chip bin system. There are independent drives on the



HERE ARE TWO OTHER VIEWS OF THE NEW OPERATIONS OF KVP, LTD., Espanola, Ont.: Top view: Taken from the west. New sulfate mill stands on brow of hill, with digester

housing as highest structure at right, excepting water tower and Cottrell precipitator stack. Power canal shows at left. Lower view, taken from north.



THIS MAP SHOWS relative locations of parent mill of Kalamazoo Vegetable Parchment Co., at Parchment, Mich., and the new mill at Espanola, Ont. It is 450 miles by rail and road between Parchment and Espanola. A water route also leads to the Michigan coast. Trees above Espanola show the general location of that mill's wood supply. Sudbury is main railroad junction at Espanola.

Twice since construction began at Espanola on northern shore of Lake Superior, PULP & PAPER INDUSTRY has sent an editor to that remote Ontario town to bring its readers a first hand story and pictures. On these pages are this magazine's own new photographs—taken at Espanola—after the start-up of the mill. And also, here, is first hand description of the equipment selected for this mill and other data on this new and important operation.

nine sets of star feeders, all controlled on the cook floor, with automatic weightometer at the base of the funnel.

Sulfate Mills

The sulfate mill was also designed by Mr. Schoenwerk. Liquor making equipment and tankage provide for causticizing and settling of green liquor, containing the reclaimed and "make-up" chemicals for the recovery furnace. The causticizing of the green liquor with re-burned lime produces white liquor for the cooking of chips in the digesters.

The Allis-Chalmers lime kiln salvages the lime that is settled out after the liquor is causticized. This lime mud is washed and thickened on a 6x6 Oliver lime mud filter and filter cake is fed into the kiln. Combustion is supported by fuel oil. The kiln is eight feet in diameter by 140 feet long, the operating temperature about 2000 degrees F. The re-burned lime with new lime is used in the lime shaker ahead of causticizers.

Each of the five digesters, built by Dominion Bridge Co., produces nine tons of pulp on a 4½-hour cooking cycle. A pressure of 110 lbs. per sq. in. and temperature of 338 degrees F. are attained.

After the pulp is cooked it is blown along with the spent black liquor into the central blow tank, whose capacity is about 27 tons of pulp. Pulp and black liquor are pumped from the blow tank to vacuum washers, after which the pulp

is ready for screening and pumping into the storage tanks.

An innovation is introduced in the operation of two lines of Oliver two-stage washers for the black liquor. In this installation the knots are removed by Jonssen Knotters ahead of the washers and press rolls can be used on the washers without damaging the wires.

The removal of knots also increases the washer efficiency. If knots remain in the pulp during the washing cycle they not only interfere with the uniform flow of wash water but also carry liquor which partially bleaches out in the washed stock chest.

Refining

Pulp beating equipment will consist of Shartle-Dilts Hydrainers and Hydrapulpers.

KVP has installed a pretreatment system for the purpose of pre-refining the output of the kraft pulp mill and bleach plant. Pretreated pulps at specified freeness and strength development characteristics are prepared in the lap and sheet form for shipment via steamer and rail from Espanola to Kalamazoo.

The contract for the complete system was awarded to Alexander Fleck Limited, in Ottawa, Ontario, the Canadian associate manufacturers for Black-Clawson, Shartle and Dilts equipment.

This stock preparation system is operated continuously and is completely equipped with process control instruments and remote control

stations, centralized at an operating panel adjacent to the technical control laboratory.

This is interestingly arranged, being one of the first complete pulp preparation systems operated from a central control station by one person—the ultimate in push-button system developments.

The equipment consists of eight No. 1 Dilts Hydrainers driven by 250-hp. motors and equipped with hydraulic remote control means for adjusting the Hydrainer plug setting.

Recovery

KVP operates a Conkey black liquor evaporator—a six-body quintuple effect unit supplied by the General American Transportation Corporation of New York. The function is to concentrate the black liquor to the point that it will support its own combustion.

The make-up chemical is added to the black liquor which is then sprayed into the recovery furnace supplied by Combustion Engineering Co., Ltd. Rated capacity is 107,000 pounds of steam per hour. Fuel oil or wood is used for start-up and emergency.

The recovered chemicals flow from the furnace in the form of smelt and are dissolved in a mixing tank to form green liquor, which is pumped to the Dorr Co. causticizing tanks to complete the liquor cycle. Dorr recausticizing equipment is also used.

Between the recovery furnace and the stack is the Cottrell precipitator, through which flue gases from the recovery furnace are passed. By means of high frequency electric current the small particles of salt cake are recovered and returned to the recovery boiler. In this way the new salt cake make-up is reduced by one ton. Fuller pneumatic equipment has been installed to handle the salt cake and lime.



KEY PERSONNEL AT KVP'S NEW PULP MILL IN ONTARIO:

At left: A. H. Burk, Woods Mgr. (at left) and E. Norval Hunter, Assistant to President. Top row: Administrative group (left to right) L. C. M. Palmer, Accounting Superintendent; William Elvish, Personnel Director; Paul Foster, Control Superintendent.

Middle row: Operating group, left to right—L. J. McCarthey, Wood Handling Superintendent; W. Peterson, Groundwood and Pulp-drying Superintendent; W. J. White, Technical Director; T. M. Iverson, Sulfate Mill Supt. Bottom row: Maintenance group, left to right—S. W. Gardiner, Master Mechanic; R. E. Simkins, Resident Engineer; Frank P. Beaudry, Steam Plant Supt.; J. F. Boucher, Electrical Supt.

Screening and Bleaching

In the screen room, after the thick, washed brown stock is diluted to a consistency of 0.3%, it is pumped to the rifflers. As the stock moves down these wide channels at low velocity, heavy particles of foreign material settle out. From the rifflers the stock flows to ten lines of three-screens-to-the-line Sherbrooke Dunbar Drive flat screens, where bark, slivers and large fibers are removed. Auxiliary pumping has been laid out so as to get primary, secondary and third-stage screening.

Accepted stock from the flat screens flows to the deckers where water is removed to bring the stock consistency to approximately 3 per cent. From this point it is planned that the stock will go to the bleach plant but at the present time it is pumped directly to the chests ahead of the pulp drying machine.

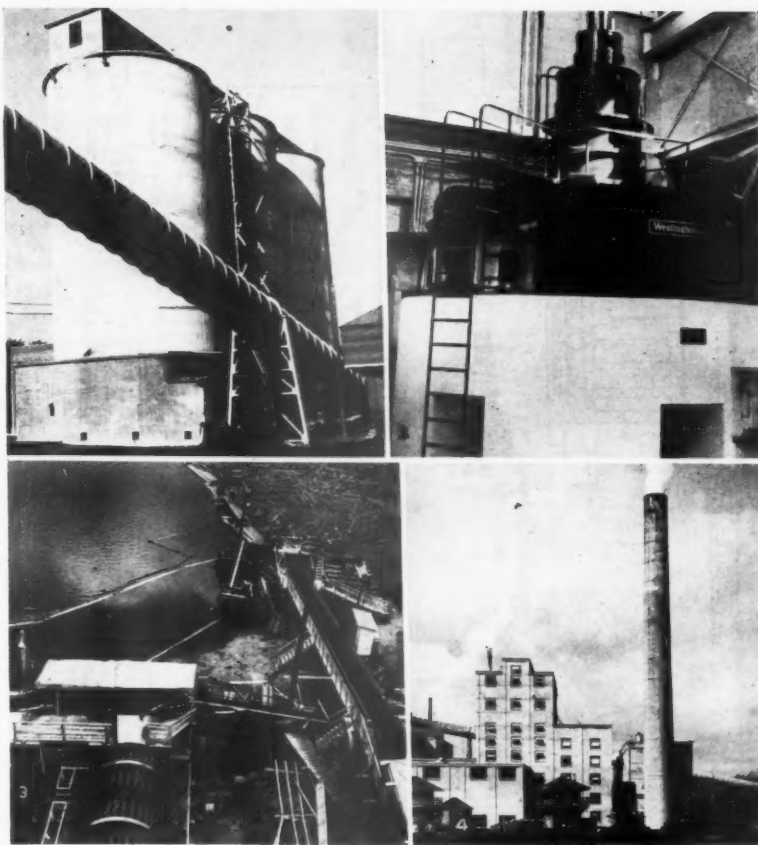
The KVP bleach plant is a 6-stage system. The layout is a result of the research on pulp bleaching carried on by the Niagara Alkali Co., who have acted as consultants in connection with this part of the mill. The first three stages are a combination of hypochlorite and chlorination carried on in continuous bleaching towers. All of the agitating equipment in the towers, caustic cookers and high density bleachers are supplied by Waterous.

The fourth stage consists of four caustic cookers operating on a batch system. The fifth stage is a hypochlorite tower. The final stage consists of six high density hypochlorite bleachers operating on a batch system. After each stage the pulp passes over one of the six vacuum filter washers, supplied by Sherbrooke Machineries.

Other Equipment

Most of the sulfate for export—mostly to Kalamazoo—is dried on a 156-inch width filter pulp drying machine capable of handling upwards of 200 tons per 24 hours. It is equipped with vertical stack of 22 dryers which make it possible to deliver the pulp at a dryness of 70 per cent air dry. Hamblet cutters and layboy are a part of of this setup.

For the groundwood operation four pocket grinders which used to be run in the old newsprint mill are operated. From the groundwood deckers pulp is pumped from the lower level to a smaller (94 inch) pulp machine, at present operating on groundwood pulp and producing 40 to 50 tons per 24 hours.



VIEWS AT KVP's Espanola mill:

1. Concrete chip storage bins, described in this article. Note the unusual type of covered chip conveyor.
2. New 10,000 hp. Westinghouse AC generator operated with vertical turbine.
3. Waterous barking drums on left; log haul on right, and logs in pond.
4. Section of new digester building; evaporators housing and Cottrell precipitator.

Sulfate pulp may also be handled on this machine.

There are three 84-inch wet machines which, together with the hydraulic presses were a part of the original Espanola equipment. They are operated by direct waterpower through a 39-inch waterwheel. Either sulfate or groundwood may be put through these machines. For the groundwood operation three pocket grinders which used to be run in the old newsprint mill are operated.

There used to be 14 boilers in the old Espanola mill. Ten have been dismantled. Four of the more modern boilers, two of which are fired with bark, have been reconditioned and are in use. The present boiler house equipment, including new installations, is: One Combustion Engineering V. U. pulverized coal boiler with steam capacity of 125,000 pounds per hour; two 410 boiler

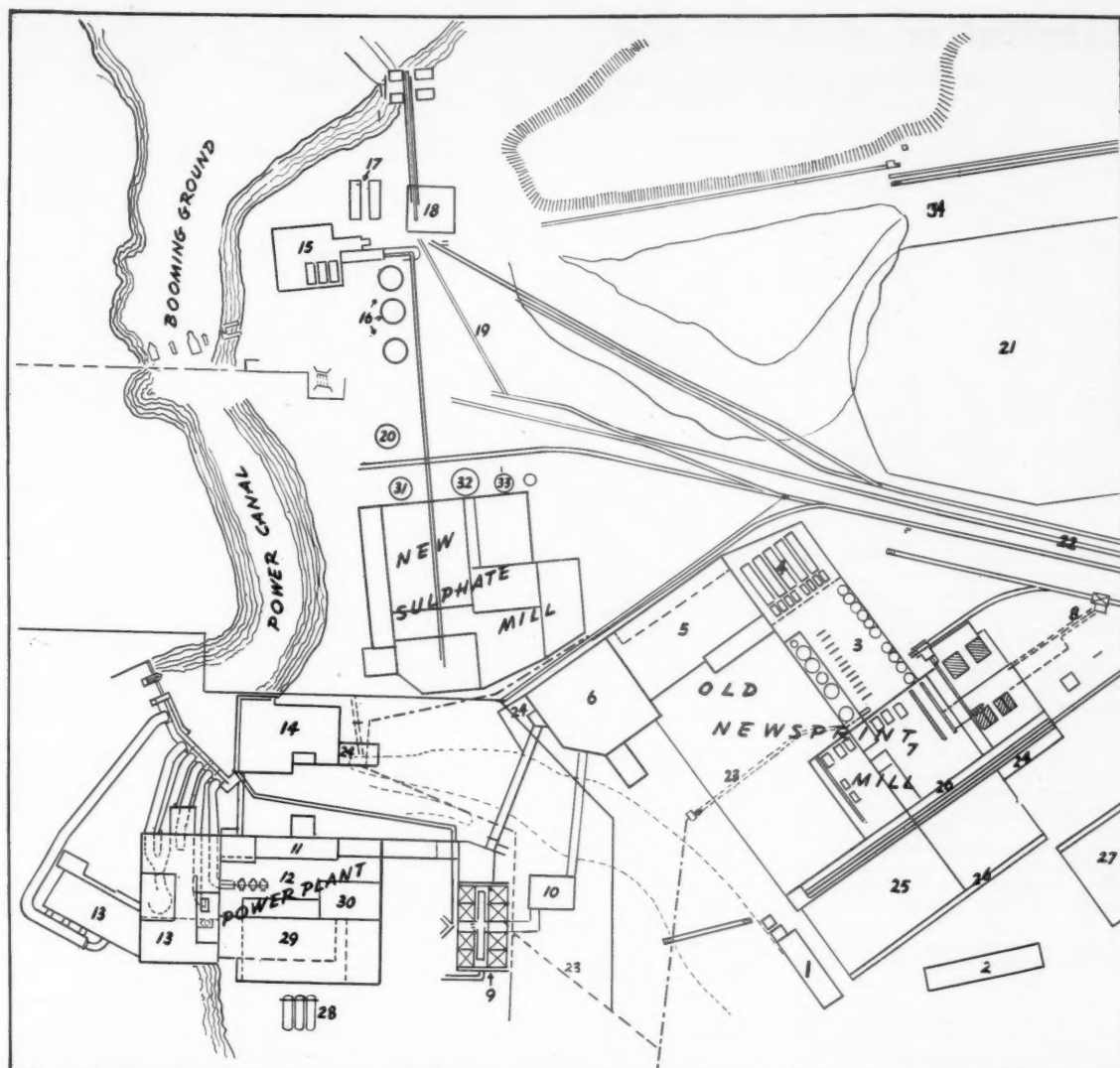
house power Robb boilers with dutch ovens for bark burning; two 290 boiler house power Robb boilers; one 5000 kilowatt Canadian General Electric electric boiler.

The filter plant installation consists of two Dorr hydratreaters, sand filters and clear well, and is capable of handling 18,000,000 gallons per day.

Chief addition to the power plant is the new A. C. generator of 10,000 h.p. by Westinghouse with Allis-Chalmers vertical turbine. This is the main power unit. One of the 39-inch horizontal water wheels is being used to drive the 1750-h.p. Canadian General Electric direct current generator which will provide power for the electrolytic plant. H. G. Acres & Co. of Niagara Falls advised KVP on its hydro-electric program.

A second 39-inch wheel provides power for the grinding operation. The four 30-inch horizontal wheels together with their generators, part of the original equipment, provide the mill with excellent stand-by equipment. When water is available, these units can provide power for the electric steam boiler.

An interesting feature is that the company electrolytically manufac-



THE ABOVE MAP SHOWS THE RELATIVE POSITIONS of the new sulfate pulp mill being built by KVP on the Spanish River and the power plant and the old newsprint mill installations of Abitibi Power & Paper Co.

- | | | | | |
|--------------------|---|---------------------|---|----------------------|
| 1. Office | 8. Coal Conveyor | 14. Salt Storage | 21. Wood Storage | 27. Pulp Storage |
| 2. Woods Office | 9. Filter Plant | 15. Wood Room | 22. R.R. Tracks | 28. Chlorine Storage |
| 3. Bleach Plant | 10. Pump House | 16. Chip Storage | 23. Paper Machines | 29. Chlorine Plant |
| 4. Screen Room | 11. Screens | 17. Barkers | 24. Docks | 30. Cell Repairs |
| 5. Old Beater Room | 12. Grinders | 18. Slasher | 25. Finishing Bldg. | 31. Lime |
| 6. Machine Shop | 13. Power Plant (old on left, new on right) | 19. Refuse Conveyor | 26. Kamyr Pulp Dryer and Shipping Docks | 32. Salt Cake |
| 7. Pulp Machines | | 20. Oil Storage | | 33. Recovery Furnace |
| | | | | 34. Wood Conveyor |

Purchasing agent, L. A. Bailey.
 Assistant purchasing agent, P. M. Bridgeman.
 Accounting supervisor, L. C. M. Palmer.

Personnel supervisor, W. D. Elvish.
 In the woods department headed by Mr. Burk, there are D. W. Gray, logging engineer; G. M. Stewart, logging superintendent; C. H. Smith, woods accountant; L. L. Handford, chief scaler, and K. B. Ripley, woods mechanical superintendent.

Officers of the company are: R. A. Hayward, president; B. F. Avery, vice-president; T. W. Peck, treasurer; E. Norval Hunter, secretary.

The board of directors comprises Mr. Hayward, C. H. Kleinstuck, C. J. Mun-

roe, T. W. Peck, A. Southon, J. B. Kindlerberger and A. B. Connable, Jr., all of Kalamazoo, Mich.; Senator W. H. McGuire, Toronto; B. F. Avery, A. H. Burk and E. N. Hunter, all of Espanola.

Hayward, Avery Met At Soo 30 Years Ago

When Mr. Avery went to KVP he resumed an association with President Hayward that goes back to the early days of industrialization at Spanish River. In 1915, New York-born Ben Avery went to Espanola as a young American forester to work for the old Spanish River Pulp & Paper Co., and he continued as a forester with Abitibi when that company established there. No one became more

familiar with the pulpwood producing potentialities of the forests tributary to that area than Mr. Avery. In 1917 the manager at Spanish River was R. B. Wolf, who is retiring next year from the Weyerhaeuser organization on the coast. Mr. Wolf's first resident engineer was a young graduate of the University of Michigan—R. A. Hayward.

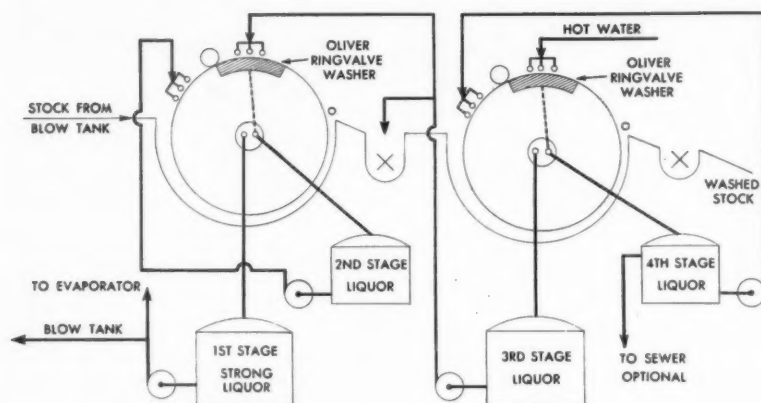
For a while Mr. Hayward and Mr. Avery lived together at the Y.M.C.A. at the Soo and they became fast friends.

Mr. Avery used to tell Mr. Hayward that chemists should try to work out a satisfactory process for utilizing the vast stands of jackpine in the Spanish River country.

The years sped by. Mr. Hayward event-

Installation at KVP, Ltd.

OLIVER RINGVALVE BROWN STOCK WASHING SYSTEM



Here is a flow drawing of the Oliver Ringvalve Brown Stock Washing arrangement as installed at the new KVP Ltd., mill at Espanola, Ont., by Oliver United Filters, Inc. Oliver ring valve washers are used in series to provide a four-stage countercurrent washing system. Each Oliver ring washer is a two-stage washer and therefore two in series make a four-stage system. The stock flows by gravity through a double repulper from the primary washer to the secondary. Mill production is normally washed on two lines of washers here. However, the entire tonnage can be washed on a single line if required. Another advantage of two lines is that two different kinds of wood can be washed simultaneously if this should be found desirable at a later date.

ually went down to Kalamazoo where he became general manager in 1924 of the Kalamazoo Vegetable Parchment Co. Twelve years later he stepped into the presidency when J. "Uncle Jake," Kindleberger became chairman of the board. Meanwhile, after a long association with Abitibi, Mr. Avery joined Great Lakes Paper Co. at Fort William, Ont.

But Mr. Hayward did not forget his old friend of the Soo and Spanish River, nor had he forgotten what Mr. Avery had said about the jackpine, and when acquisition of the Espanola mill and the tributary timber was being considered by the KVP organization, Mr. Hayward went to Fort William to discuss the whole situation with Mr. Avery. It was therefore a logical development that Mr. Avery should become vice-president and general manager of KVP last April. After a separation of 30 years, Mr. Avery and Mr. Hayward are working together at Espanola.

The career of Ben Avery is also closely interlocked with another top executive of KVP—E. Norval Hunter, who as assistant to the president at Espanola, has been largely responsible for the re-conversion miracle at Espanola. Born in Ontario, Mr. Hunter went west and, while holding a master of arts degree, decided to cast his lot with the pulp and paper industry. His first job was at the Manitoba Paper Co. in Pine Falls. The mill was a subsidiary of the old Spanish River Pulp & Paper Co., which then operated at Espanola, Sturgeon Falls, Sault Ste. Marie and Iroquois Falls. It was at Pine Falls that Norval Hunter rose to supervision of the control department; and it was there, too, that he first met Ben Avery.

In 1932 Mr. Hunter went to Great Lakes as control superintendent later to take charge of the sulfite mill. Five years later Mr. Avery joined Great Lakes, and now the two are sharing the same office building at Espanola.

Harold Burk, woods manager, started his career at the Sault mill of the old Spanish River Co. while still a student at the school of forestry at Toronto. After graduation with the degree of bachelor of science in forestry he became chief of surveys, with headquarters at Sudbury, for Spanish River, and in that capacity completed the forest inventories and working plans for the limits back of Espanola and Sturgeon Falls mills of the company. In 1937 he joined the woods department of the Great Lakes Paper Co., Ltd., as logging engineer. With the development of Espanola it was natural that he should be chosen to head up the woods organization and in January, 1945, he became woods manager of the KVP Co. Thus the association of Burk and Avery had covered a span of 26 years.

A New Town

With the mill in production, KVP is hastening its program for rehabilitation of the old town of Espanola with a view to providing the best of living accommodation for its employees. New housing units are rapidly going up, and a community recreation center is under construction. The natural setting of Espanola is ideal and the re-awakened town will soon be listed among the model pulp and paper centers of Ontario.

KVP will serve as valuable reinforcement for the parent company as well as an important supplier of the domestic market. Kalamazoo Vegetable Parchment Co., whose expansion has been amazingly rapid, was confronted in 1940 with the fact that its requirements for pulp would amount to at least 250 tons per day. The company was buying pulp from all sections of the United States, Canada, Sweden and in Finland, but there were wide variations in quality and price. The company needed a stable supply under its own control in order to maintain quality standards and a competitive position. The building of a pulp mill of its

own appeared to be the only answer, and the location at Espanola seemed, after exhaustive inquiry, to be the logical choice.

Pulplog Exports to U. S. Unlikely to Increase

Log inventories in British Columbia are greater than at any other period in the past four years, but whether any increase in pulp log exports to Puget Sound mills will be permitted remains to be seen.

Ordinarily, with plenty of logs in the water and plenty more coming out of the woods, it might be considered that there would be a surplus for export. But there are several factors to contend with.

First, the 40-hour week became operative for the first time Oct. 1, and loggers would like to see just how this effects production.

Secondly, independent loggers are not nearly such an important factor as they used to be. There are very few of them left. The tendency is for the large pulp and paper mills, sawmills, etc., to control their own supply and most logs are already earmarked for their use.

Third, the government, through the Sloan report recommends that log export should be kept at a minimum regardless of supply position to stimulate manufacture in British Columbia. Pulp log exports have been held to around 30,000,000 feet annually compared with more than 100,000,000 feet prior to 1942.

Nevertheless, there is a feeling among some British Columbia loggers that some restrictions will be removed. There has been no change in the law that permits exports of logs from Crown lands, even though Timber Control as a wartime expedient suspended its operation and used its own discretion as to the extent of log exports. There has been no intimation of an early termination of Timber Control; it will probably continue until the critical housing shortage is over.

Another point to be considered—and this is in the realm of policy, too—is whether in the interests of international cooperation British Columbia should not be prepared to share its logs more liberally with mills in neighboring states, some of which have traditionally been dependent on British Columbia for some of their supplies.

Perkins-Goodwin Co. Issue 100-Year History

One of the finest books on the paper industry to appear in a long time is "The First 100 Years," recently published by the Perkins-Goodwin Company, New York, to commemorate its 100th anniversary. Beautifully printed and bound, and with many illustrations, the volume tells the history of the company in terms of the pulp and paper industry, and in so doing relates much of the history of the United States.

The final chapter is written by Louis Calder, president. Called "Today and Tomorrow," it looks ahead for the company, and Mr. Calder writes in conclusion:

"While Perkins-Goodwin is celebrating a century of service to the paper industry, I am celebrating my 50th year with the company. I have long since been convinced that the choice I made back in 1897 was the right one; and again I say,

"Paper is a fascinating business, and I am enjoying my own share in it to the full."

ST. REGIS CELEBRATES— IT HAD FOUR BIG REASONS



THIS HISTORIC PICTURE by PULP & PAPER INDUSTRY's own cameraman shows five interested individuals looking over the first roll of paper off the new paper machine at the St. Regis "key" mill in Deferiet, N. Y. Each of these persons did their part to make this long-husbanded dream become a reality.

Left to right: RAY ORMISTON; ROY K. FERGUSON, President of St. Regis; CLARENCE SOUVA; E. F. MARSHALL, General Manager of three Northern New York mills, and EMORY ROGERS.

October 24th was a day of celebration for St. Regis Paper Company—and there was a great deal to celebrate. For example:

1. Completion of the first stage of a \$6,000,000 expansion program and the beginning operations of a new paper machine at Deferiet, N. Y., which increases the mill's production from 80,000 to 110,000 tons annually, or 37½%.

2. A testimonial dinner for employees with 25 years or more of service, of whom 121 out of the St. Regis organization's 400 are in the Deferiet area operations.

3. The 45th anniversary of the completion of the original paper mill at Deferiet.

4. Installation of the latest type Roberts grinders, construction of a new power plant and electrical distribution system, new machine coat-ers, and new wood handling and conveyor systems—all this at the Deferiet mill.

Nor was this all. Said R. K. Fer-

guson, president of St. Regis "This program is only part of a long-range expansion of all the company's operations and will enable us to boost production of bleached groundwood, catalogue, directory and magazine papers to meet the rising demand for these products."

On the evening of Oct. 23 a special St. Regis car left Grand Central Station, carrying St. Regis officials and members of the business press toward Deferiet. At the same time, other St. Regis officials and friends of the company were converging on the mill from points other than New York City. Among guests of honor were men outside St. Regis who had been prominent in the expansion program, such as A. Cooper, president of Bagley & Sewall, and George Pennock of the same company; W. F. Uhl, president of Charles T. Main, Inc., and his associate Mike Jacobs; and D. P. Appell and H. G. Talboys of George A. Fuller Co.

At the head of the testimonial dinner were many St. Regis officials: among them J. A. Quinlan and E. R. Gay, vice presidents; W. J. Dixon, vice president and secretary; W. H. Verfelt, treasurer, and H. R. Lamb, a member of the board of directors. Another vice president, Lyman Beeman, was an able toastmaster, and speakers in addition to Mr. Ferguson were E. F. Marshall, general manager of the company's Northern New York printing paper mills, and E. G. Murray, vice president of St. Regis Sales Corp.

Tribute to 25-Year Men

But the real celebrities at the testimonial dinner, Mr. Ferguson made plain, were the 25-year men who were honored at St. Regis Inn with their quarter-century pins. "We are proud of them," he said, "both here at Deferiet and elsewhere. . . . It never could have been possible for St. Regis to achieve its present development without corresponding courage, persistence,

SCENES AT ST. REGIS CELEBRATION in Deferiet, N. Y.:

Top: PRESIDENT FERGUSON starts up the new No. 6 machine. To his right are: General Manager E. F. MARSHALL and E. G. MURRAY, who is in charge of St. Regis sales of printing, publication and specialty groundwood papers.

Below them is shown the new Bagley & Sewall 206 in. trim, 1100 ft. per min. machine. Below that is a scene at the Service Pin dinner for 25-year employees and at bottom of page is a general view of the mill in Deferiet.

In the small insets are: At left: ALVIN BROTHERTON, who helped start up the mill in 1901. At right: LYMAN A. BEEMAN, of New York, Vice President of St. Regis, and HERBERT BROWNELL, Assistant Superintendent in Deferiet.

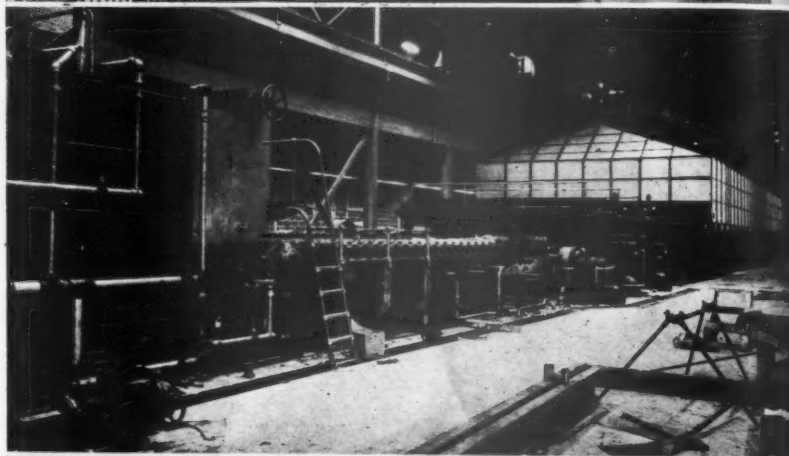
ability and good judgment and foresight of the company executives and loyal employees."

A visit to Watertown and Deferiet is always a homecoming to the St. Regis president. With a background of many years' interest in the industrial development of Northern New York, he told the 25-year men:

"During the tour of inspection today I was reminded of another October afternoon, 29 years ago, when a similar tour was made under the guidance of my distinguished predecessor and friend, Floyd T. Carlisle. It was my first view of the St. Regis Paper Company property. The four-machine newsprint mill of 1917 producing 150 tons daily, and the present six-machine mill with its high speed equipment producing 350 tons per day provide an interesting study of 30 years of growth and progress in Deferiet."

Mr. Ferguson went on to delineate the contrast.

"Today, St. Regis owns and operates 24 pulp and paper mills and converting plants, and maintains an extensive sales organization in 24 cities throughout the country. These nationwide operations cover the U. S. from the northern woods down to the Florida everglades, from Deferiet, Watertown and Oswego across the country to Tacoma on Puget Sound. Through its extensive ownership of forest lands in the Adirondacks, New England, Canada, the Pacific Northwest and Florida, and with its far-flung interests in bag manufacturing operations in other countries, St. Regis has expanded its manufacturing and sales activities which began here on the Black River until they now touch the continents of North America, South America, Europe, Australia, and the distant regions of the far East—starting with the production of newsprint here, and later specializing



in lightweight groundwood papers for catalogues, directories and magazines, then adding the manufacture of kraft pulp, kraft paper and multi-wall bags, finally developing the great Panelyte plant for the production of laminated plastics—until St. Regis has become one of the world's leading manufacturers of wood cellulose products."

Mr. Ferguson announced that the authorized capital of St. Regis is now \$72,027,070 and its payroll \$19,500,000 to some 9,000 men and women. It was in September that the 14,500 stockholders, authorized an increase of capital stock from the former figure of \$47,027,070.

Description of Equipment

The tour mentioned by Mr. Ferguson began with a trip through the St. Regis bag plant at Watertown, and then convened at the Deferiet mill following luncheon at the Hotel Woodruff. At the mill Mr. Ferguson pressed the control button which started up "Number 6" which began its initial break-in run at 700 feet per minute to produce 70 tons for a starter. The maximum speed of "Number 6" will be something beyond 1,100 feet per minute.

It was built originally as a news-print machine for Ogdensburg by Bagley & Sewall of Watertown, and has been completely rebuilt by that company.

Stock preparation equipment for the big machine includes a Semco tile mix chest with Impco agitation, an E. D. Jones & Sons Jordan, Semco tile machine chest, Bird screens from the fan pump with stainless steel plates, to a Bagley & Sewall head box. The machine wire is 218 by 80 inches, and there is a Beloit suction press roll, and 34 five-foot dryers with Foxboro temperature control.

The saveall system is Oliver 8 by 16 with Nash vacuum pumps on flat boxes, suction couch and two suction presses, with a Ross hood. Eventual capacity should be 105 tons per day of 22½-pound paper. There are Cameron rewinders at the head of the two 152-inch Appleton Machine Co. supercalendars. There is coating now at Deferiet on all machines.

One of the main features in the sulfite mill at Deferiet is a new 14 by 45-foot digester fed by a new three-unit belt conveyor system. This makes available a total of four units which permit fully flexible pulping operations. The older digesters are 14 by 38.

New equipment for wood handling and preparation includes special

Takes Over Bryant With Massey as Manager



PETER J. MASSEY, pioneer of on-the-machine high speed coating of paper, which he did much to develop over a decade ago, has taken over as the new General Manager of the Bryant Paper Co., Kalamazoo, Mich.

Link-Belt conveyors, a 12 by 22½-drum washer, a 10-knife chipper, and five Roberts grinders now running, with another going in and one to come—seven in all. With this equipment, and complete Chemipulper layout, a capacity of 55 tons of sulfite per day is achieved. New construction entailed complete brick and steel buildings for the new machine, and for the wood handling set-up.

The new boiler units have full automatic control and operate with a pulverized coal fire with air preheaters and a fly-ash removal system. Improvements in the electrical system involve two 6,000 kw Westinghouse generators.

As previously announced in this magazine, the Deferiet plant will use any one of a combination of several local woods from the company's New York and New England holdings of 350,000 acres, and 200,000 (plus 100,000 acres of Crown leases) in Canada. The St. Regis program will bring a very considerable new income to northern New York and New England farmers with wood lots.

Magazine and printing papers can be made from peroxide-bleached groundwood pulp, which provides good capacity and smoothness, and from long-fibered sulfite pulp which provides added strength.

As sale negotiations were nearing completion, the St. Regis Paper Co. took over the operation of the Bryant Paper Co., Kalamazoo, Mich., as of Nov. 1.

Peter J. Massey, who over a decade ago pioneered the on-the-machine high speed coating of paper and foresaw the day of challenge to the paper industry when it would have to keep apace with the high-speed rotary, heat-set presses for printing, has been called in as the new general manager for the big modernized Michigan mill.

Allan B. Milham, members of whose family have headed up the Bryant company since it was founded 51 years ago, has retired as president. Mr. Milham, who has been one of the leaders in the Kalamazoo paper industry for years, has carried through a machine improvement, modernization and power expansion program during the past year which has put this mill in shape to meet the greatly increased post-war paper appetites of the Time-Life-Fortune magazine group.

As reported in this magazine last month, Time, Inc., was negotiating to turn over ownership of the three mills it bought in 1945—Maine Seaboard, Bryant and Hennepin Paper Co.—to St. Regis but would continue to draw on them for paper.

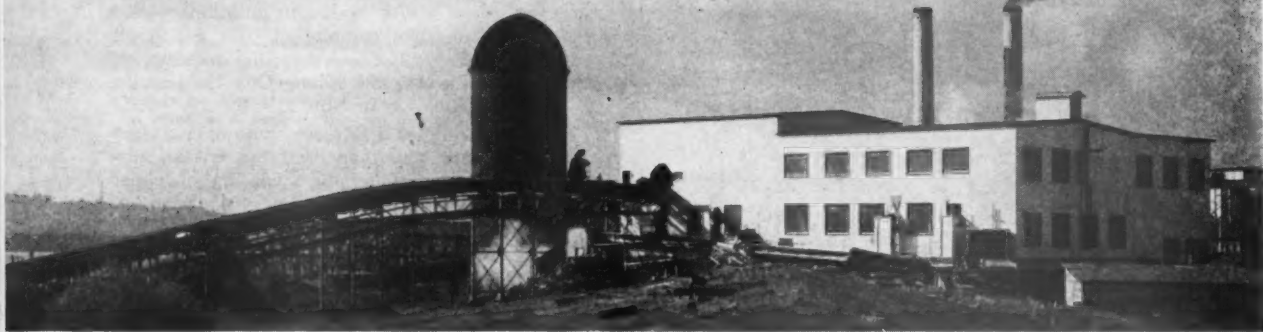
Roy K. Ferguson, president of St. Regis, announced Mr. Massey's appointment and said he would work under general supervision of Lyman A. Beeman, vice president, whose headquarters are at 230 Park Ave., New York. Mr. Beeman met with Mr. Milham and Mr. Massey in Kalamazoo last month to close details of the new organization.

The Bryant mill produces 70,000 tons of printing paper annually. Mr. Massey said there would be no changes in supervisory staff. A new coating plant and a Graphic Arts laboratory under D. Robert Erickson, director, were among additions made at Bryant in the past year.

Mr. Massey, a former vice president of H. P. Smith Paper Co., 5001 West 66th St., Chicago 38, managed that paper printing and finishing company while its president, C. Carr Sherman, was in war service. Mr. Massey formerly was with W. F. Hall Printing Co. in Chicago, Consolidated Water Power & Paper Co. in Wisconsin Rapids, Combined Locks Paper Co. and Seaman Paper Co.

WEYERHAEUSER'S NEW

Hydraulic Barking-Whole Log Chipping Plant Among Improvements, Five Are Important



General view of new whole log barking and chipping plant at Longview, Wash. Debarked logs from this plant will go to both the pulp and one of the lumber operations. This is just the first of sev-

eral new projects being undertaken on the Longview premises for this company. A sulfate mill, in addition to the present sulfite operation; an Mg recovery plant for the sulfite mill; a bark-utilizing plant; a plywood mill—these are other Longview additions that are shaping up.

Here is the new hydraulic log barker at Longview, which differs from predecessor at Everett in several essentials and debarks logs at faster rate. At Everett, the log is indexed but at Longview the log is continually turned by a Reliance adjustable speed motor through Western Gear differential reduction gears. After a log has been barked and released and another one is on its way to the jaws, the turning arms shown here lift out of way against barker ceiling.

When the Weyerhaeuser Timber Co.'s first hydraulic log barker and whole log chipper—largest in the world—were put into operation in Everett, Wash., four years ago, it may be said that it was one of the truly significant and great events in the history of forest-using industries.

This great engineering develop-

ment of the war years, in which several companies have participated and contributed, has aroused interest of forest industries in many parts of the world.

This was first evidenced by the many requests from near and distant countries for copies of the article which described and illustrated, in pictures, that Weyerhaeuser development (PULP & PAPER INDUSTRY'S 1943 Review Number). Also there has been a veritable "pilgrimage" of forest industry executives and operators from all corners of the world to see several similar new plants which have been built in the Pacific Northwest.

Producers of pulp and paper, particularly, have long known that wood could be saved and the cost of their products appreciably reduced if means were developed to eliminate wood waste in the barking and chipping plant of pulp mills. The Weyerhaeuser development at Everett resulted in an increased yield from logs of 18 to 20%. This is really a sensational saving when it is considered that now only four of the big Western logs are required to make as much pulp as five logs formerly produced. Envision the savings over the years in forest resources, extending over literally millions of acres of valuable timber lands, and its importance from the point of view of conservation and husbandry of forest resources is better appreciated.

As soon as the Everett plant went into production, Weyerhaeuser executives and engineers immediately set to work to build a similar plant at Longview, Wash., where it would not only serve their pulp industry there but their extensive lumber mills—among the largest in the world. In contrast to the Everett de-



STORY IN PICTURES OF WEYERHAEUSER'S

new barking-chipping plant:

1. and 2. All-steel double log haul with steel towers and trusses—the only log haul and return set on same structure in pulp industry. In No 2, the return haul, is shown big Douglas fir logs, cleanly barked, going back to pond for delivery to sawmill. This is purpose of the return haul. In both these pictures are shown Western Gear Works reducers, which are installed on each of the log hauls. These units are 75 hp., 900 r.p.m., with reduction ratio of 62.9 to 1. Entire plant uses 28 Western Gear reducers.

3. Log entering barking plant with 110-inch downswing inserted-tooth pulpwood saw seen through entrance-way. 4. Here is pulpwood saw in operation. Man, operating controls, cuts logs to proper length for barker and sends log on to barker intake transfer. This operation was engineered by Filer & Stowell Co. of Milwaukee, which supplied swing frame and log jaws which grip logs rigidly.

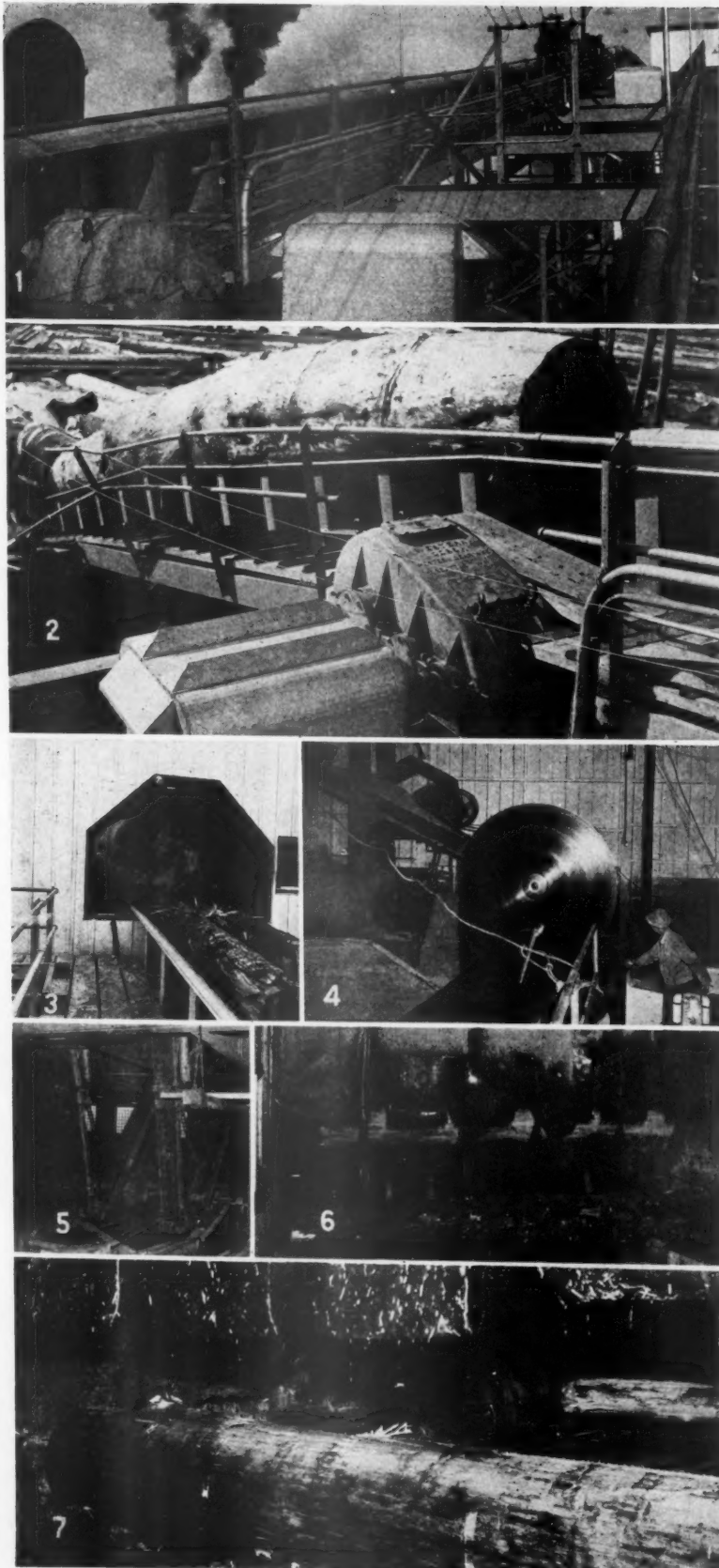
5. Before completion of installation, this view shows new type of turning arms in barker mechanism. These arms withdraw into upper area when not in use.

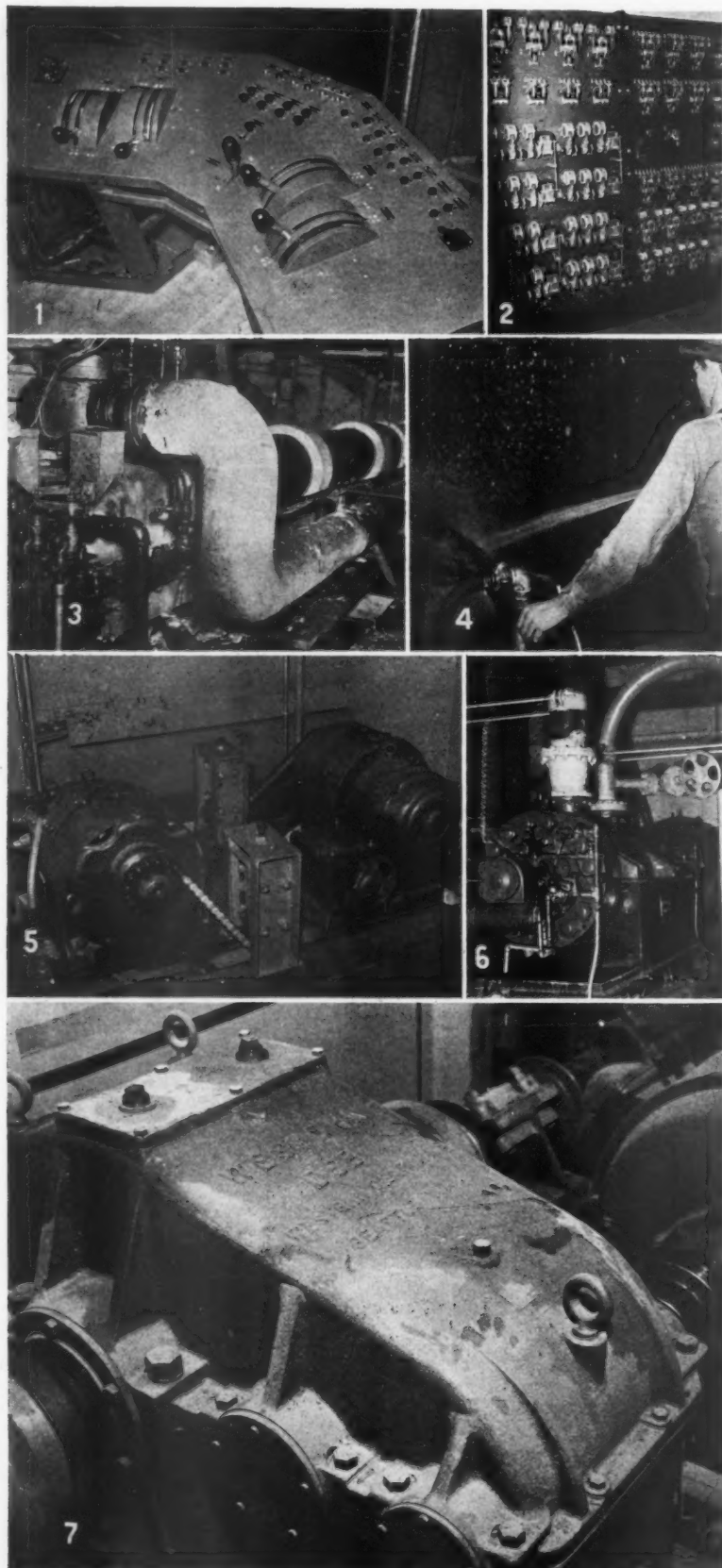
6. Intake side of barker after housing was completed. Unbarked log is seen coming in on transfer. Partly behind curtain, a barked log can be seen being removed from jaws and deposited on outgoing transfer chain. 7. Barked logs coming out from barker under heavy curtain.

velopment, where wartime restrictions forced cutting of corners and use of existing facilities in certain cases, the new Longview hydraulic log barking and whole log chipping plant is entirely new.

It is an important unit in a vast expansion program on the Longview properties of Weyerhaeuser Timber Co., which lie athwart the great Columbia River at that seaport point. A new plywood mill; a new sulfate pulp mill, in addition to the present sulfite pulp operation; a new magnesia base recovery plant for the sulfite mill alongside the sulfate mill recovery plant, and even a bark products plant are the main units of the elaborate expansion program.

To anyone familiar with the critical problems of wood supply facing such industries in current years, it is not difficult to appreciate that the barking and chipping plant is an important, if not the key, unit of this expansion. The savings in wood made possible by clean hydraulic removal of bark, without loss of good wood slivers inherent in former mechanical methods, and also by barking and chipping of whole logs (instead of reducing log to numerous cants, each time losing much wood in saw kerf), will be so great that the Weyerhaeuser Timber Co. can be justified in contemplating such a great expansion program. This company has long been an outstanding leader in timber conservation but greatest of all its achievements





HYDRAULIC LOG BARKING MECHANISM AT LONGVIEW:

1. Operator's board for barking machine, supplied by Clark Controller Co., of Cleveland, which combined with Reliance Electric & Engineering Co., of same city, in pioneering this type of equipment. Precise, automatic and highly complex, the push-button handling and debarking of giant logs has been compared to operations in steel mills. Five-ply armored glass (at top of picture) with windshield wiper protects operator from high pressure water and debris. This board is wired to panel in next picture.
2. Section of control panels supplied by Clark Controller Co. for barking machine. Only two of three panels are visible. These are housed in room adjoining control room.
3. Here is steam cylinder of Filer & Stowell Co.'s Free Piston Engine which drives nozzle carriage back and forth along log at much higher speed than twin engine similarly used at Everett mill. This engine is underneath second or operating floor, partly outside building and in such position that nozzle is located underneath log to be barked.
4. Just beyond barker, operator with hose removes any staining debris which might still adhere to clean-barked log.
5. Power for continuous turning of logs in barker machine is supplied by Reliance adjustable speed motors. Speed and efficiency are greater than in Everett intermittent indexing of log.
6. Here is 8-stage centrifugal pump operated by General Electric 1,000 h.p. induction motor which can be seen in background. Motor is 2200 volt, 3-phase, 60-cycle squirrel cage type of drip-proof construction, carrying pedestal type bearings. Water delivered to barker, above, at 1475 lbs. p.s.i. of nozzle aperture, at rate of 940 gals. per min.
7. Western Gear Works specially-engineered D-58 differential type reducer for indexing chains which turn log in barking machine. This unit was required to act in much same manner on these chains as differential acts for rear wheels of an automobile.

in this line has been the development of hydraulic log barking. There is no question about that.

Longview Improvements

Experimental work in hydraulic log barking began at the Longview mill back in 1935, and now the Weyerhaeuser Timber Co. has come back to Longview to build what is its offering of the ultimate in housing and installations for this type of operation. Of course, it has been able to improve on the Everett plant in many big and small ways, profiting by the experiences at Everett during the past four years.

There are five changes of major importance:

1. A new Filer & Stowell "Free Piston" steam engine drives the nozzle carriage instead of the conventional type twin cylinder engine.
2. The log in the barking machine is turned continuously by a Reliance adjustable speed motor and differential reduction gear instead of being indexed intermittently by hydraulic cylinder. Speed and efficiency are greater.
3. Deck drives for handling logs

PULP PAPER

DOMESTIC
EXPORT
IMPORT

Chinese prisoners of war divulged the
secret of papermaking to the Arabs.

From "A Pictorial History of Paper" published by Bulkley, Dunton.

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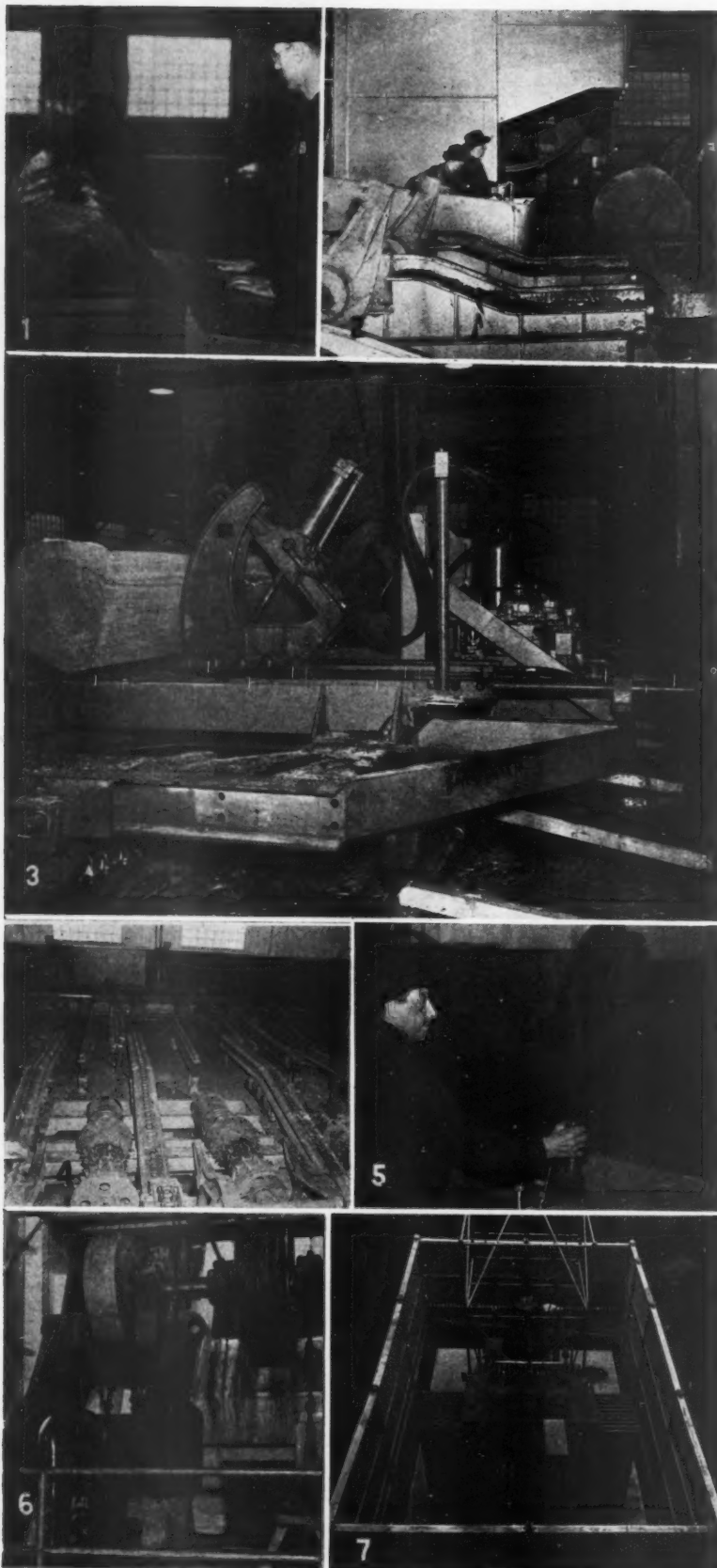
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EQUIPMENT BEYOND BARKER, BEFORE BIG CHIPPER:

1. Operator at this station determines whether barked log continues on conveyor to chipper or is "kicked out" to band mill feed. Logs over 40 inches diameter—too large for mouth of chipper—or too irregular, must go to the breakdown section to be reduced lengthwise; then are returned to transfer for chipper.
2. General view of breakdown plant for occasional logs over 40 inches diameter. Here new type of equipment has been designed and supplied by Filer & Stowell Co. Logs come down deck in foreground. Band-mill is in background and carriage, with log on it, at right.
3. Closeup of Filer & Stowell carriage, one of first of type in any forest industries anywhere, with hydraulically driven knees and dogs. This enables smoother and easier remote control of operation. There is also advantage of operating knees independently, to saw off any portion of log such as big knots or other irregularity.
4. Interesting view of floor plan with hydraulic action carriage, log on it, at far left. Here are spiked rolls to chipper in foreground, spiked rolls to band saw in background and conveyor in between.
5. Only one man is required to operate this breakdown section shown in previous views. Carriage is automatic through hydraulic action and all stops, nigger, and log actions are operated from this station.
6. Sumner Iron Works manufactured this steam engine feed for band mill, moved to Longview from the Everett mill.
7. Entire barking and chipping plant is served by this Westinghouse 4,000 KV-A, 3-phase, 3-winding, oil-filled inertia transformer with 13.8 K.V. primary voltage. Two secondary windings provide 2200 and 550 volts and are rated at 3000 and 1000 KV-A capacity respectively. The secondary windings can carry both KV-A ratings simultaneously. The 2200 volt control equipment is pulp mill type construction with hinged formed steel front panels and doors on the rear. The control includes an incoming line cubicle, 4 squirrel cage starting cubicles, 2 wound rotor motor primary cubicles and 2 wound rotor motor secondary cubicles. The 550-volt motor control center includes 2 cubicle type units having air circuit breakers and starters supplying 64 circuits. A 1200 ampere, 3 pole air circuit breaker is included with miscellaneous instruments and incoming control.

in the barker chamber are placed above deck which gives lower maintenance, and better accessibility.

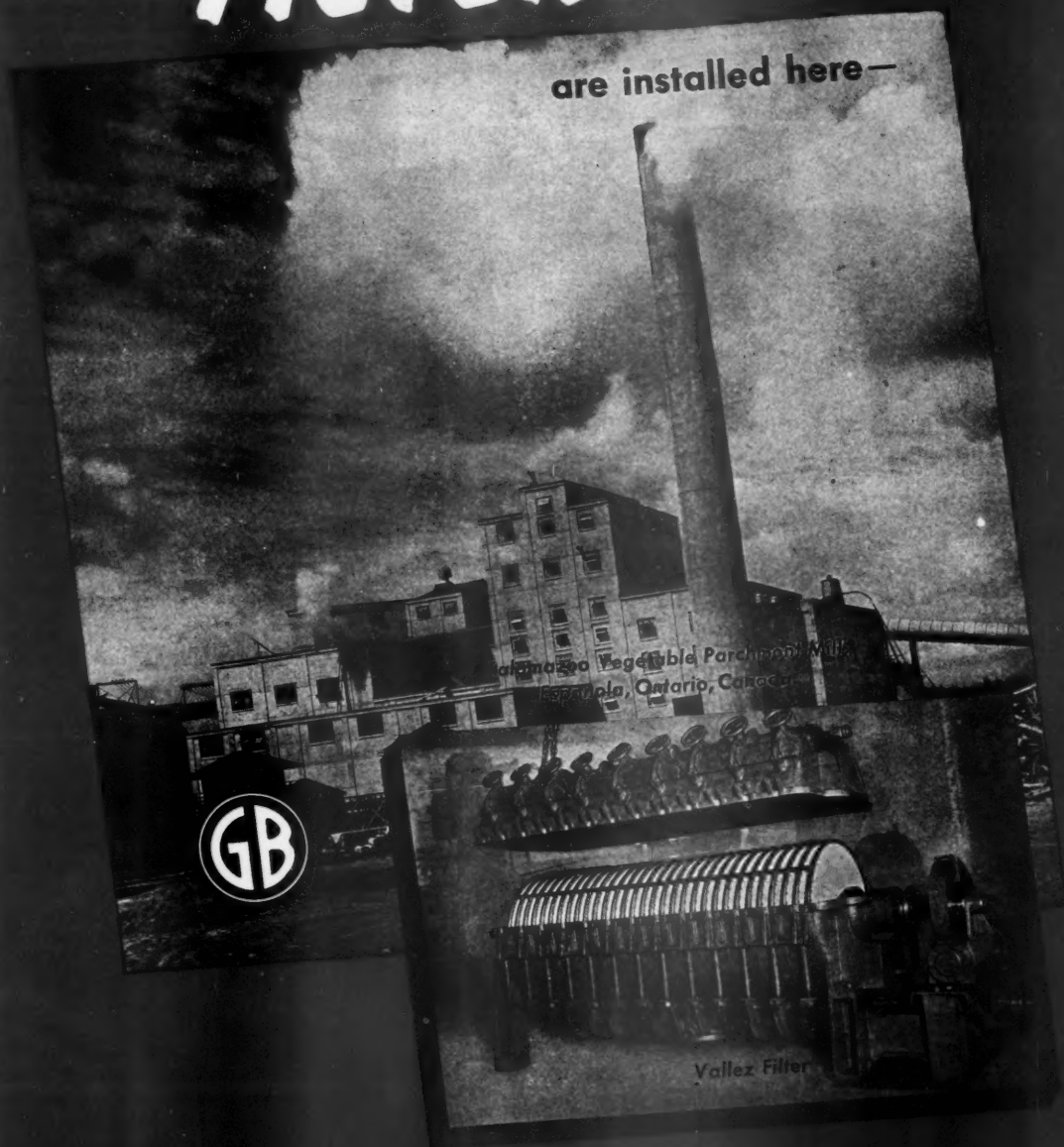
4. The all steel double log haul with steel towers and trusses represents a new development in log handling, since it incorporates the only log haul and log return set on the same structure in the pulp industry. It is one of the first all-steel log hauls of any kind in pulp or sawmills. The Weyerhaeuser Everett pulp mill log haul is wood only.

5. A breakdown plant for reducing occasional logs over 40 inches diameter (too big for chipper mouth) which has one of the first hydraulically operated carriage knees and dogs. All new equipment in this plant was supplied by Filer & Stowell. The hydraulic operation permits

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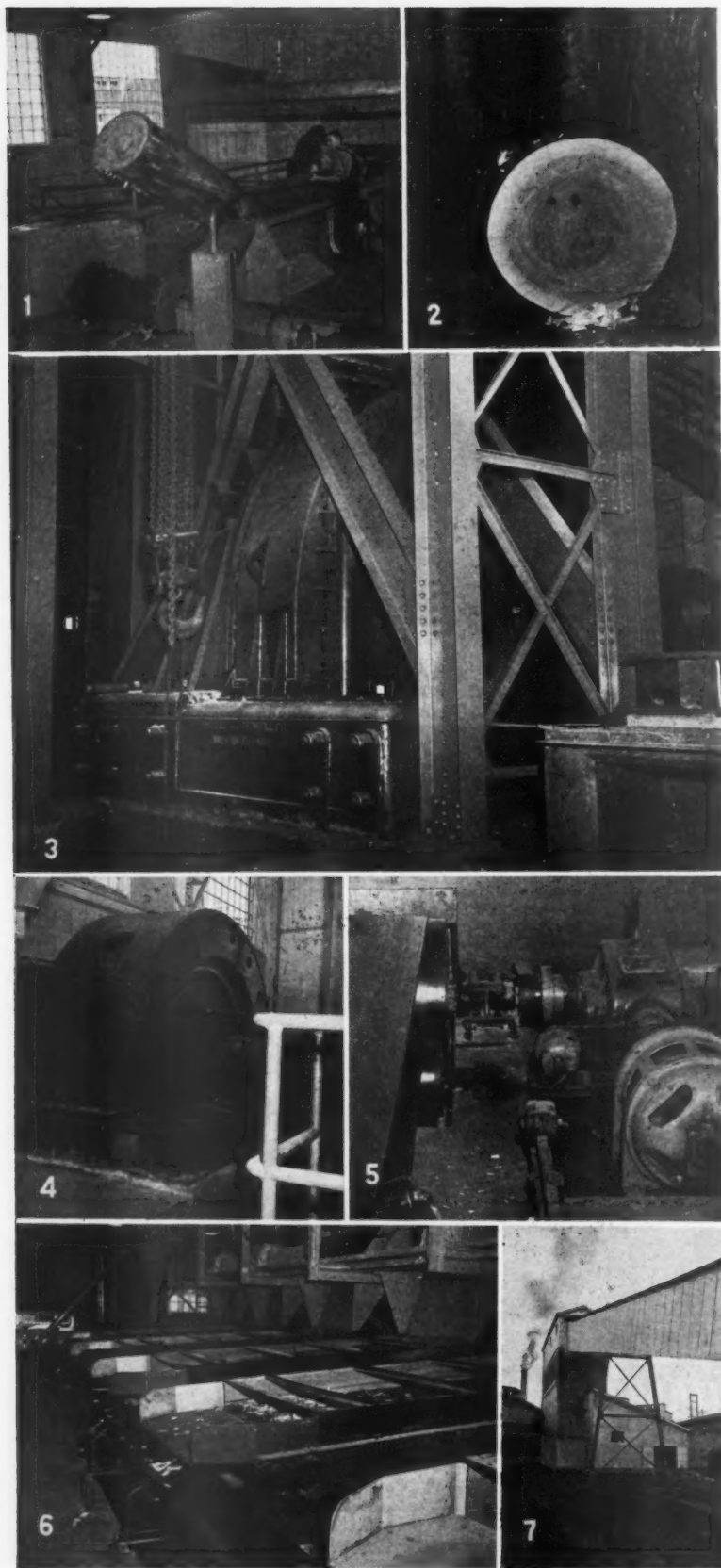
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WEYERHAEUSER PLANT VIEWS—AT CHIPPER STATION AND BEYOND:

1. One operator controls feeding of whole barked logs into 175-inch disc Filer & Stowell chipper through spiked roll feed which prevents logs dropping weight directly against chipper blades on an uncontrolled drop. On opposite side of this entrance to chipper is Western gear reducer and motor for roll feed.
2. Looking down into chipper mouth. This is a 38-inch log. Chipper mouth takes up to 40 inches. Powered spiked roll under log slows action, lets log abut against steel back plate (top center). Bottom is lowered with spiked roll through slot until log enters mouth. (See article for description.)
3. Here is view of Filer & Stowell chipper, one of largest ever made, with 175-in. disc. Taking logs up to 40 in. diameter, it reduces them to chips at rate of one linear foot per second.
4. General Electric 1500 hp. synchronous motor of Type T5 which operates at 240 r.p.m. powers the big chipper. This is 2200-volt, three-phase, 60-cycle mill type motor connected directly through Thomas coupling.
5. Westinghouse motor and Western Gear Works right angle drive for chip conveyor belt. Part of big belt is seen.
6. In chip storage building, chips come down to 6 Rotex screens made by Orville & Simpson Co., Cincinnati, and are delivered to conveyor belt (not shown) while reject chips are carried on belt, shown here, to rechipper for reduction to desired size.
7. At end of 213-foot long conveyor which lifts chips 40 feet from chipper, a chip storage bin has been engineered, with steel frame, to store and supply chips to sulfite mill via another 4,000 ft. of travel by conveyor belt.

easier and smoother remote control than an old-type sawmill carriage and has the advantage of operating the knees separately so only certain parts of a log may be reduced lengthwise.

Attention centers in the multifold purposes of machine installations and engineering of the building, because the Longview hydraulic barking plant of Weyerhaeuser Timber Co., unlike the Everett plant which fitted itself to an old building, is engineered in every detail to its purpose—and this purpose only. The building houses principally the high pressure "barker", a 175-inch disc chipper to take whole logs up to 40 inches, a nine-foot band mill to reduce logs above 40 inches in diameter to size suitable for the chipper, a double log haul-supply and return from the Columbia River log feed pond, and all the necessary conveyors to handle transport, either for whole log or by chip bulk. An additional building, fed by conveyor, houses surge bins, screens, and other chip storage and segregation functions.

An important feature of building design rests in the fact that barker services may not be confined to the Pulp Division, but as well can accommodate for shorter Douglas fir logs, one headrig—specifically Mill

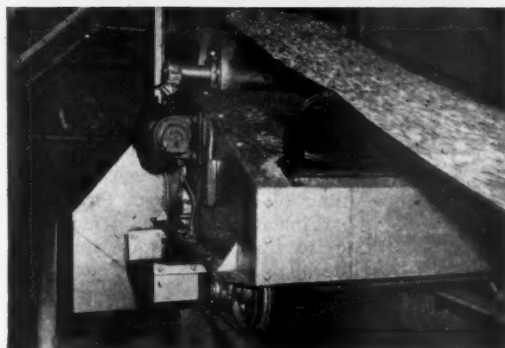
LINK-BELT CONVEYORS

**ASSURE
EFFICIENT
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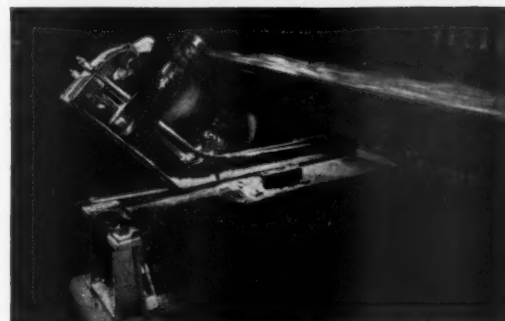
Link-Belt H-124 malleable iron chain conveyors handle the logs to and from hydraulic barker. Link-Belt > FLINT-RIM < sprockets are used on all of these chain conveyors.



A Link-Belt liquid vibrating screen is employed for screening out the fine bark remaining in water discharged from the hydraulic barker.



Link-Belt roller bearing belt conveyors handle chips from whole-log chipper to surge bins over vibrating screens in screen room and from screens to chip storage bins in the mill. Link-Belt > TANK < type trippers are employed for distributing chips throughout surge bin in screen house and the chip storage bin in mill.



Link-Belt Type 100 belt conveyor idlers with 45° end rolls are used. Photo shows Link-Belt self-aligning idler for automatically and positively maintaining long conveyor belt in a central position without injury to its edges.

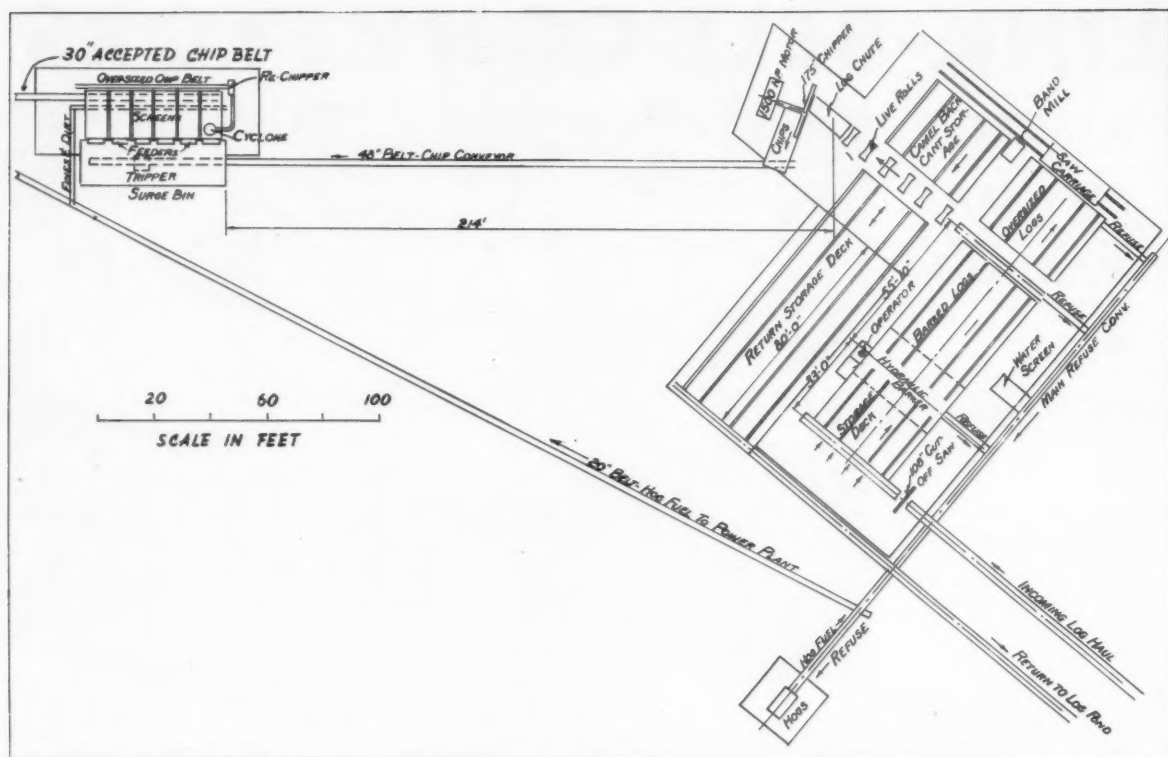
● Link-Belt conveyors handle logs, chips and bark at the modern hydraulic barking and whole-log chipping plant of the Pulp Division of Weyerhaeuser Timber Company, Longview, Washington.

Link-Belt Company manufactures in its own plants, all types of chains, sprockets and a complete line of belt conveyor equipment and accessories, as well as many other types of conveyors, elevators and mechanical power transmission machinery for every service. Link-Belt's "know-how" accumulated through many years of service to the pulp and paper industry the world over, is available to you.

LINK-BELT COMPANY PACIFIC DIVISION

Plants at San Francisco 24, Los Angeles 33, Seattle 4. Offices and Warehouses: Portland 9, Spokane 8, Oakland 7.





**SCHEMATIC DIAGRAM OF HYDRAULIC WHOLE LOG BARKING AND CHIPPING PLANT
WEYERHAEUSER TIMBER CO., LONGVIEW, WASH.**

No. 3 of the huge Weyerhaeuser Timber Co. sawmill division—which shares fame as the world's largest daily capacity sawmill with the Long-Bell Lumber Co. mill which is situated about two miles up the Columbia River.

The two log hauls, one of the few all steel units in the Western forest products industry and the only double action log haul mounted on the same structure in the entire industry, are so installed as to bring logs from the pond to the barker and to return barked logs to the pond again for use of the sawmill division. Certainly a wood type factor enters into consideration, but the matter of delivery by river raft or by railroad so that pulp species can be fed to the barker during one shift, and Douglas fir for the sawmill during the off-shift appears to be only a matter of organization among the dolphins and booms of the river. Economy of sawmill barking is unknown. The assumption that recovery will not match the approximate 18-20% wood fiber saving in pulp mills is inherent, although savings better than 10% are anticipated. Exactly what percentage of extra utilization is attained in sawmilling must remain an indeterminate until

Weyerhaeuser Timber Co. finds an answer in actuality.

Equipment and Operation

The new barker building has a front of 150, with a depth of 62 feet on the river side, but increased on the other side by a wing which measures 110 feet from the front with a width of 70 feet. Logs coming in on the log haul close to the river side end of the building are automatically unloaded, after being bucked to length, on a traverse conveyor which carries them to the barker jaws, and after barking is completed, continue until cut-in conveyors are reached. Movement from this point is directed by wood type and size. If logs are Douglas fir barked for sawmill use they will be diverted by rolls to a traverse conveyor operating in reverse direction which carries them to the return log haul, lying parallel to the incoming log haul but outside the main building, for return to the river. This return conveyor, is approximately 90 feet in length, of chain type, and occupies an exterior return deck placement on 2nd floor level. If logs are pulp species they may yet move two ways:—first, barked logs above 18 but less than 40 inches go direct

to the chipper; or barked logs above 40 inches are carried by elevating conveyor across to a log deck for feeding to the band saw before they go to the chipper. All logs before entering the chipper pass over 8 spiked log rolls, each turned by a Reliance Induction motor through Reliance reduction gears for proper momentum. In this way, entrance and exit for any size and species log has its provision, depending on final utility.

The automatically controlled handling of the big logs through the barking machine—logs which weigh up to five or six tons apiece, but literally tossed around as though they were toothpicks, and with split-second precision—is one of the most elaborate control systems introduced in any major primary industry. It has been compared with complicated electrical automatic equipment for the steel industry and may, in this respect, possibly be compared with the timing and controls on paper machines.

Clark Controller Co., of Cleveland, Ohio, and Reliance Electric & Engineering Co. of the same city, combined in pioneering this type of equipment for the pulp industry in the original Weyerhaeuser installations at the Everett, Wash., mill in

Again-RELIANCE MOTORS

help Weyerhaeuser achieve faster,
more efficient log barking and chipping!



On their way into the chipper, logs are regulated in their progress over spiked rolls through each roll's independently operated Reliance Splash-proof Gearmotor. Logs can be quickly started, stopped, positioned or reversed as the operator sees fit through automatic control.

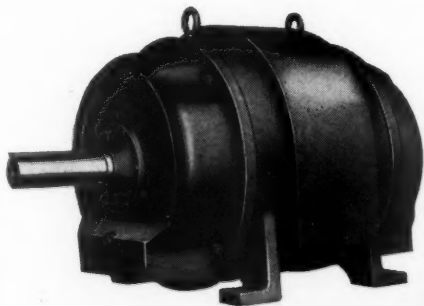


In the hydraulic barker, whole logs are turned continuously by a Reliance Adjustable-speed Motor and a differential reduction gear.

In 1943, the pulp and paper industry learned of the vital part played by Reliance Motors in the amazing efficiencies and economies introduced by the Weyerhaeuser hydraulic log barker and chipper at Everett—largest in the world. Now, Weyerhaeuser again makes news—with even faster, more efficient hydraulic processing of whole logs at Longview. And here, again, it's Reliance Motors supplying the power to make new records possible!

Each of the rugged, dependable motors Reliance sent to this job is designed to meet the speed and torque requirements of the operation involved. Those which power the barker are fully protected against water spray and bark. All are adapted to remote control and split-second timing.

Here is more evidence of Reliance's ability to produce integrated, co-ordinated drives, complete with motors, brakes, reducers and controls, and designed—both electrically and mechanically—to meet the requirements of a job exactly. Drives planned this way mean greater speed, higher production, easier operation.



Splash-proof Reliance A-c. Motors operate door and entry chains, lift skids, lift arms and positioning knees. A single operator maintains finger-tip control of the log from the Reliance-Clark bench board.

RELIANCE ELECTRIC & ENGINEERING CO.

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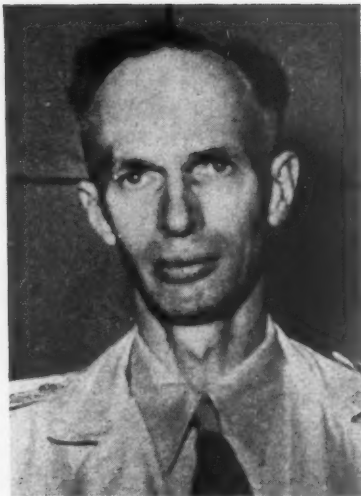


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"Motor-Drive is More Than Power"



Left to right: W. N. KELLY, Mill Manager; LOWELL EDWARDS, Plant Engineer; and DONALD FELTHOUS, Assistant Plant Engineer, all of the Longview mill of the Pulp Div., Weyerhaeuser Timber Co., have been close to the experimental and development work in hydraulic log barking by their company for most of the past 12 years. The first experiments which led to the first installation at Everett were carried out at Longview with a log turned by hand against a water jet. The

experimenters had to wear fishermen's "Sou'westers" and slickers to protect themselves and they would emerge covered head to foot with wet bark bits.

VERN MAUERMAN, Construction Engineer, and CHARLES MILLER, Superintendent of the new barking-chipping plant, whose pictures were published on Page 34, June, 1946 issue of PULP & PAPER INDUSTRY, also assisted in the more recent Longview developments.

1942. These companies were called in again to provide a mechanism which has been improved over the original in various respects for the operation at Longview.

Such functions as operating the barker entry door and entry chains, lift skids, the turning arm lifting device and the positioning knees are powered with A-C gearmotors equipped with magnetic brakes. These units have special electrical and mechanical characteristics to provide the necessary speed of operation and to withstand the very rapid duty cycle and the shock load incident to high speed operation. The functioning of these various drives is coordinated by the control equipment which was built for Reliance by the Clark Controller Co. and the operation of the machine consolidated in a single bench-board to permit a single operator to have finger tip control of the movement of the log through the barker.

Nozzle Carriage Drive and Continuous Log-Turning

The Filer & Stowell Co.'s "Free Piston" engine drives the nozzle carriage back and forth at a much higher speed than the twin engine used at Everett. In fact this "Free Piston" engine with its 31-foot stroke (approximately, as the length can be varied) may well be termed a revolution in design, compared with any other means used so

far for imparting long stroke reciprocating motion to a driven carriage or other device.

The piston making about one 31-foot stroke per second has practically constant velocity during the time the jets of water hit the log. Due to the extremely high compression of steam at each end of the piston stroke, the reciprocating parts (including the nozzle carriage) slow down and reverse very quickly so the carriage is traveling at full speed when the jets of water again hit the log.

During actual operation the steam consumed is only the quantity required for overcoming the frictional resistance of the moving parts. In comparison with a twin engine or a regular shot gun steam feed the steam consumption is therefore very low.

Because of its rapid travel the nozzle erodes bark from the logs much faster than the machinery used at the Everett plant for the same purpose.

In the original installation the hydraulic cylinder arrangement was used to index the log intermittently, whereas on the Longview job, this function is powered electrically with the Reliance adjustable-speed motor and Western Gear Co. reduction gears coordinated with Clark Controller Co. mechanism with the rest of the electrical equipment by Reliance Electric & Engineering Co.

This continuous turning—instead

of indexing—gives a high efficiency to the operation because time is not wasted on "the pause that refreshes."

Control room for the barker, provided with 5-ply armored safety glass and automobile type horizontal water swipes for operator vision, sets slightly forward of the barker jaws so the operation can always be properly viewed. The log revolves at the discretion of the operator by means of loose slung endless chain, and is gripped during the barking process by "turning" arms which fold against the steel superstructure above whenever support is not needed. Water, furnished at up to 1475-pound pressure per square inch of nozzle aperture and at 940 gallons per minute, erodes bark from the log from an impact angle which deviates only 1 degree down from the perpendicular, and carries a slight lead only because Douglas fir bark erodes better with such placement. Specifically, 24-foot hemlock logs, 36 inches in diameter, have been completely barked and released in 8 seconds.

Electrical Control

The Clark Controller Co. which, as previously stated, engineered and built the first log barking electrical control for the Everett plant, now is building a third control unit for still another location.

The main control panels at Long-

CLARK PIONEERED, AND BUILT, THE FIRST AND SECOND ELECTRICAL CONTROLS FOR HYDRAULIC LOG BARKERS



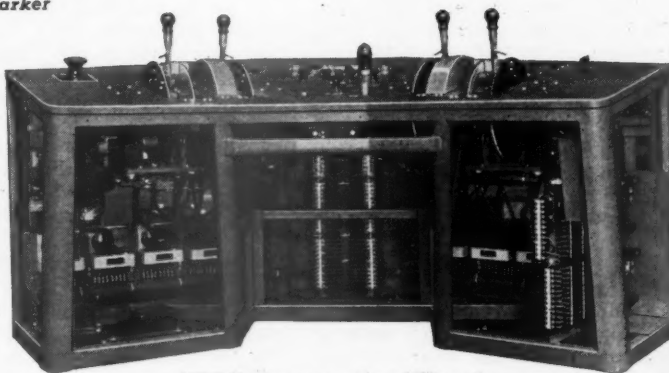
"3C" Control Panel for Hydraulic Log Barker

Sixteen log de-barking operations are under instant operator control with this special bench board. Both ends of the board are built at an angle to the center section, so that the operator can reach all actuating devices from the central area. Recessed center section permits operator to sit at his work. Tall handles on each side of center section operate positioning devices, which with 36 self latching points, function with photo-electric tubes to direct as well as limit movement.

At the left are "3C" Electrical Control Panels for a new Hydraulic Log Barker on the West Coast. In 1943 Clark built the first control, for a similar installation. This new installation embodies new features that 3 years' experience in operation have developed.

For instance, approximately one minute was required for barking one log in 1943—frequently 3 logs per minute are barked. This increased speed, heavy duty service, with accurate settings needed for clean barking of logs, is being accomplished with these new "3C" Control Panels.

Featured are "3C" Bulletin 7400 D. C. Varitime Contactors which provide in themselves the property of an adjustable, definite time delay of the closing of the main contacts, after the coil is energized. This eliminates special relays, simplifies wiring, and provides accurate dependable operation.



*"3C" Operators Bench Board
Panels Removed*

Similar careful, practical "3C" engineering service is available to solve your electrical control problems.



THE CLARK CONTROLLER CO.

1146 EAST 152nd ST., CLEVELAND 10, OHIO • EVERYTHING UNDER CONTROL



view are 146 inches long and 78 inches high. These panels are in a separate control room, so that slashing and moisture from the hydraulic debarking process will in no way affect the operation of the apparatus. Clark heavy duty mill type contactors bear the brunt of the rapid sequence and continuously repeated cycles of operation which is certainly heavy duty, as frequently three or four big logs are barked in one minute. The "3C" Bulletin 7400 D. C. Vari-Time contractor which is used effectively in the log barking control panels, is an exclusive Clark development and has given remarkable performance for years in all types of heavy duty rapid operations, such as in steel mills, and other continuous processing lines.

The Vari-Time principle consists of building into a standard D. C. contactor the property of delaying for an adjustable definite time, (after the coil is energized) the closing of the main contacts. This construction eliminates all accelerating relays, thus, fewer devices are needed on the panels, maintenance is greatly reduced, and wiring is simplified to such an appreciable extent that circuits are traceable with greatest ease. The timing element in these Vari-Time contactors is hermetically sealed, and never needs maintenance nor repairs.

Standard "3C" Bulletin 7400 D. C. Contactors are also used, the sole difference being in the magnetic core—all other parts being interchangeable. Bulletin 7322 Thermal Overloads are employed throughout the system, thus giving dependable motor protection at all times.

Heavy Duty Bulletin 7307 type CB heavy duty relays are also used, together with Bulletin 7311 field accelerating relays, and Bulletin 7313 Vari-Time relays (embodying the same time delay feature found in the Vari-Time contactors), to provide dependable control in this heavy duty log barking operation.

Unique in electrical control annals is the bench board or operator's desk. This is the first one of its kind ever built. Most bench boards are built in a straight line, which necessitates the operator walking from one end to the other to reach all actuating devices. This bench board is built with a center section, and slanted top, with the two end sections joined to it at an angle. Further, the center section is recessed, like a knee-hole desk so that the operator, if desired, may sit at his desk, with all actuating devices at his finger tips. The tall handles at each side of the center section operate positioning devices,

which with 36 self-latching points, function with a unique combination of photo-electric tubes, relays and selsyn motors, to direct as well as limit movement of the adjusting motors for locating the log over the nozzle path.

A selector switch permits individual manual operation of each drive or movement, and also sets up the circuits for automatic operation.

Clark Bulletin 7313 Electronic Timers govern the time the steam valves are open; this determines the speed of the nozzle carriage steam feed. This entire bench board is housed in a plate glass enclosure which permits the operator to view the log barking operations from a dry vantage point.

Clark Bulletin 10—brakes with D. C. shunt coils and watertight connection boxes; watertight Bulletin 102 Cam limit switches; watertight Bulletin 102 Hatchway Limit switches—all these also play prominent parts in the split second timing and operation of the electrical control system.

In order to secure proper water flow and pressure, a custom built six by eight p.c., eight stage centrifugal pump, operated at 3560 r.p.m., has been set on the ground floor, directly under the barker installed on the second floor. This pump delivers 940 gallons of water per minute at the extremely high pressure of 1475 pounds per square inch of nozzle aperture. With such force, sufficient to cut off a man's arm or leg cleanly and instantaneously, bark is stripped and hurled from the log as the nozzle carriage travels its full 31 feet of thrust per second. Power for the pump comes through direct connection by a Fast's self-aligning coupling to a General Electric 1000 h.p. induction motor, with operating speed on the load at 3560 r.p.m.

All the new machinery in the breakdown plant, where any necessary lengthwise reduction of logs for the big 40-inch spout chipper is made, was supplied by Filer & Stowell, including the new type of hydraulically operated carriage.

Sawmill incorporated in the plant, a 9-ft. bandmill, formerly operated for the company in Mill A, Everett, Washington. A full concrete base projects above the first floor elevation sufficiently to bring the band mill into place on the floor above. The accompanying carriage, equipped with hydraulic knees, and dogs, was designed and built by Filer & Stowell, Milwaukee, Wis. This employs twin steam engine feed with cable, and has the necessary log loading devices to the carriage.

The controls are designed so that one man only—the sawyer—operates the band mill, twin engine, hydraulic knees and dogs, nigger and log loader—in fact, this entire log reduction installation.

The 175-inch disc chipper, made by Filer & Stowell, and the General Electric 1500-h.p., 240 r.p.m. synchronous motor which powers it, rest on special reinforced concrete bases, with open space under each for reasons of chip clearance and accessibility. The chipper, one of the largest ever made, operates at the rate of one lineal foot per second on 40-inch diameter logs with gravity feed. A special feed feature, beyond the 8-spiked rolls already mentioned, includes an additional spiked roll attached to a special swing frame in the feed chute which permits its operator to catch any log, after its butt strikes the back wall, and feed it down without noticeable shock into the chipper mouth.

A down swing pulp wood saw, engineered by Filer & Stowell, and equipped with a Disston 110-inch inserted tooth saw, bucks logs to length inside the mill on the intake log haul. Filer & Stowell log jaws clamp the logs rigidly for sawing before release to the barker conveyor.

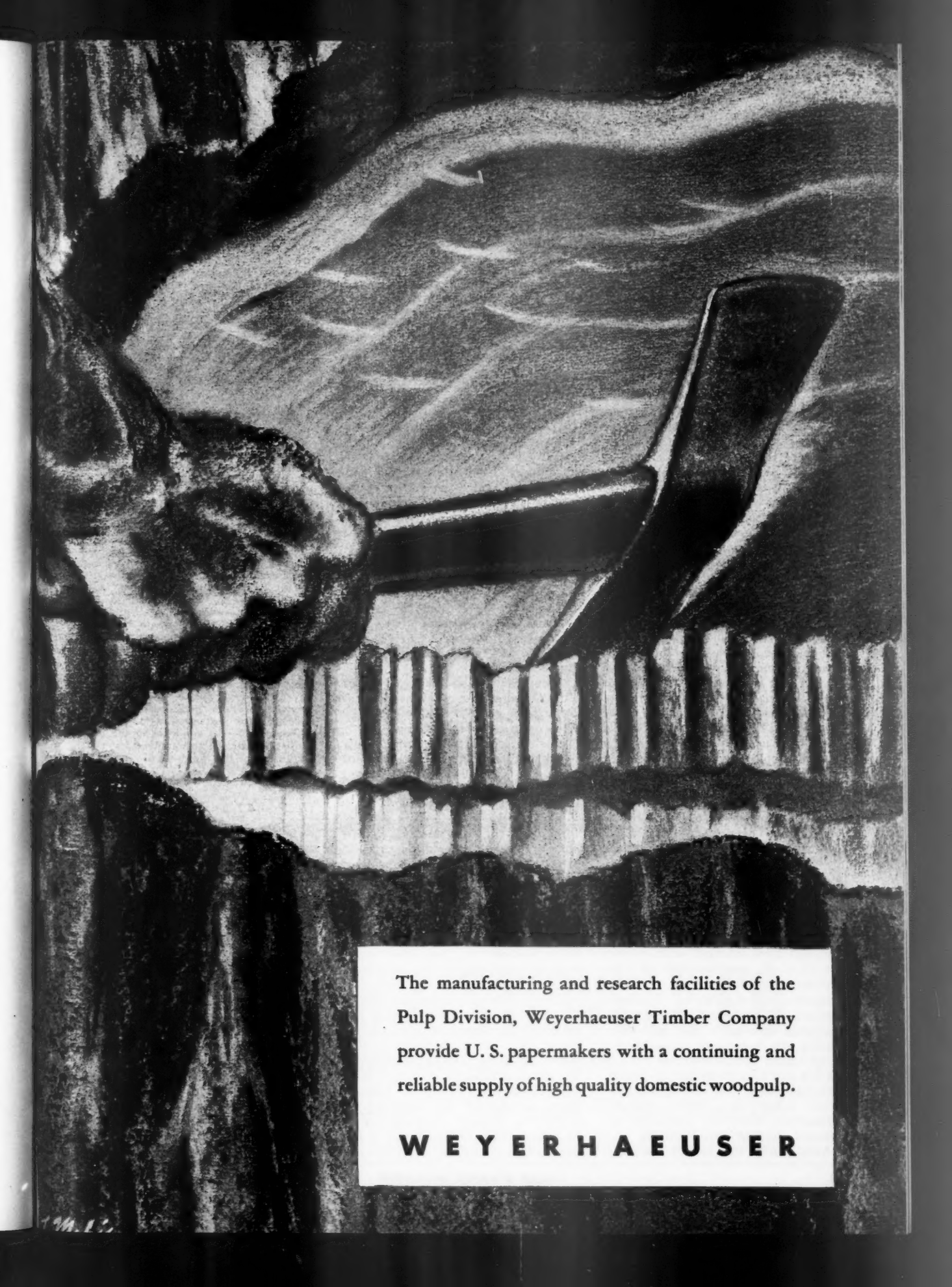
The conveyors throughout, no matter what their purpose, whether log haul, traverse chain, parallel belt, chip storage belt, or refuse, are of steel construction, and many of them, including the collector and bark conveyor below the hydraulic barker, are steel cased. Conveyor chain of all types carries the Link-Belt name, with the exception of the long link log chain and chairs made by Electric Steel Foundry Co., Portland.

Link-Belt also supplied motor-propelled chip tripper over the surge bin, another modern device for this plant.

The motor control units for serving the various drives in the plant such as mill drive motors, conveyor chains, pumps, compressors, etc., are Westinghouse 2200-volt or 550-volt units and are of standard cubical design.

Western Gear Works, Seattle, (affiliated with Pacific Gear Works) has supplied 28 speed reducers for the new barking-chipping plant ranging in horsepower from 1½ to 100 hp. with reduction ratios up to 63-to-1. These are for the log haul, chip conveyors, transfer chains, transfer rolls and includes the special differential type for indexing chains.

All conveyor belting was supplied to the job by the General Rubber



The manufacturing and research facilities of the
Pulp Division, Weyerhaeuser Timber Company
provide U. S. papermakers with a continuing and
reliable supply of high quality domestic woodpulp.

W E Y E R H A E U S E R



"OLD TIMERS" of the Weyerhaeuser Timber Co., Pulp Division, who attended 15th Anniversary Dinner in Longview, Wash., home of the first mill, on Nov. 11. Forty-seven of original employees were present, including five who now are working at Mill No. 2 in Everett, Wash.

R. B. Wolf, Manager of the Division, who is retiring next year, was out of town. W. Norman Kelly, Manager of the Longview mill, and Svarre Hazelquist, Tech. Director, were speakers, and Ken Larkin, Personnel Advisor, was toastmaster. Others were: J. E. Baker, H. R. Heuer, Paul F. Miescke, C. F. Miller, William Ely, F. C. Lewis, L. W.

Bailey, George Wolfe, Ben Harris, H. H. Best, H. T. Peterson, P. B. Varney, T. B. Evans, H. A. Hauff, E. H. Barton, William Johnston, O. W. Brown, J. C. Monick, B. M. Nelson, T. E. Poe, James L. Liles, R. E. Pickle, A. R. Baker, K. B. Caskey, W. L. Waddington, Leslie Kent, Robert Rolfson, Gordon M. Kirkpatrick, Theodore Oetken, John Jorgensen, Charles Huff, L. G. Thomas, R. A. Swanson, Nelys Silver, Frank Lundmark, W. H. Raymond, O. D. Fallman, A. W. Arnold, Leon White, Gary Molitor, H. A. Baulig, and D. E. Goodwin. From Everett division: Carl Arrington, Cliff Barton, Red Mullen, Lorraine Wilder and Lou Wendt.

& Supply Co., Portland. These are Goodrich rubber belts or Diamond rubber covered synthetic belting; some of this measures 48 inches in width. Two principal carrier systems extend from the barker building. One, a 20-inch belt, conveys bark and refuse some 613 feet to a saw-mill steam generating plant. The second, a 48-inch belt, carries the chip supply some 213 feet from chipper to surge bin.

This surge bin, a separate building of greater height than the barker building itself, has a compartment 51 x 15 feet x 30 feet 3 inches in height devoted to the bin, with screen room below which occupies a space 80 x 33 feet 6 inches which has an offset of 8 feet. Concrete foundations with structural steel frame, and reinforced concrete walls have been used for construction. The chipper belt conveyor discharges into the surge bin after elevating 40 feet in 213 feet. Below, in the screen room 6 Rotex chip screens, made by Orville Simpson Co., Cincinnati, Ohio, have been installed to sort the fibrous materials before passage by 30-inch belt conveyor to chip storage from which they move for pulping about 4000 feet to the pulp mill proper. Reject chips are delivered to a 34-inch disc rechipper. A pin chip screen salvages fibrous material from sawdust, with return for all short unreclaimable fiber to the steam generating plant.

Roofing on the barker building consists of 2-inch tongue and groove planking, covered with composition roofing which consists of one layer of 45-pound Johns Manville asbestos felt and 2 layers of like 15-pound material, finished off with a mop job. Wood siding has been utilized throughout. This was contracted to General Roofing Co., Portland.

Additionally the barker building

has at its corner where the chipper stands an overhead monorail crane system mounting 2 Wright 25-ton chain pull hoists for unloading heavy machinery from the railroad spur which cuts under the corner of the building. After utility has ended, one of these hoists will be removed; the second will remain for maintenance use.

Design and Engineering

Plant design and construction supervision were done by O. C. Schoenwerk, Chicago, consulting engineer of Weyerhaeuser Timber Co., who was represented on the site by C. L. Fargo.

Among Longview employees of the Pulp Division, Weyerhaeuser Timber Co., these may be mentioned for their contributions to the new plant: Vern Mauerman, construction engineer; Don Felthous, assistant plant engineer; Lowell Edwards, plant engineer; and Charles Miller, superintendent of the new plant.

Norman Kelly, manager of the Pulp Division, Longview, says, "We have our fingers crossed yet on some of these features, but we hope they work. The plant will certainly simplify our wood handling problems, and assure of a constant and continuous operating speed."

Despite announcement of J. P. Weyerhaeuser, Jr., executive vice-president, on August 28, 1945, that "The new hydraulic barker and whole log chipper, presently under construction adjacent to the log pond, will be completed by December 1, 1945," work stoppages resulting in the main from labor difficulties which interfered with steel fabrication and steel supply in Eastern areas, occasioned the time lag in contractual delivery. This applies to all but structural steel, supplied by Kansas City Structural Steel Co., in

Longview Mill Celebrates Anniversary

Armistice Day had a double significance to the vast Weyerhaeuser Timber Company enterprises as it was the 15th anniversary of the start-up of its first pulp mill in Longview, Wash. It was this mill, opening up a new field for wood use, which in a very practical way set the tempo for that company's later and more diverse steps toward intensified utilization of its vast wood enterprises in five great western states.

With costs reaching new high levels in mill expansion and construction today, it is interesting to recall that the original 175-ton high grade bleached sulfite pulp mill at Longview was built for somewhere in the region of \$3,000,000, far below what it would take to duplicate it now. Just 15 years later, a new sulfate mill and other projects are under way on Weyerhaeuser properties at Longview, where considerable ground was held for just such a purpose.

About 50 15-year employees of the pulp division celebrated the anniversary with a dinner in the new Coral Room in Longview.

They reminisced about the problems of 1931.

accord with its earliest commitments—an admirable job according to Weyerhaeuser spokesmen. R. T. Early Co., construction engineers, Tacoma, Wash., was at all times abreast of deliveries, and would have met the date specified had everything depended entirely upon its efforts.

In the near future a new type of a hydraulic small wood barker, using the hydraulic jet principle, will be installed in a separate building expressly for utilizing logging waste and forest thinnings in 8-foot lengths, from 4 to 16 inches in diameter. Logs will be brought in by truck or railway, but will not be unloaded into the pond. Instead they will be handled direct to an unloading dock from which they can be fed direct to this barker. This unit, con-

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nected with the present plant only by its chip conveyor to the surge bin, will permit recovery of sound wood hitherto not economically feasible, and should mean, in connection with the large barker, a utilization improvement totaling 30 per cent

per acre of forest land by waste and thinning, and 15 per cent by recovered fiber on commercial size logs, excepting, of course, sawmill logs, the economies of which are unknown.

Hydraulic Log Barker Makes Possible New Bark Products

The Weyerhaeuser Timber Co. at Longview, Wash., has developed a process which will utilize tree bark.

The company's development department after research and experimentation has discovered ways to produce several commercially useful forest by-products, three of which are described.

These are (1) a plastic, (2) an important ingredient in a new kind of plywood glue, and (3) an effective component of an insecticide. The materials will be sold to companies engaged in manufac-

turing these products.

Clark C. Heritage, manager of the company's development department, declared the finding of uses for bark eventually will make it economical to bark the logs before they go either to the sawmill or pulp mill at Longview. A hydraulic log barking and whole log chipping plant is being completed now at Longview, which will make about 18% to 20% savings in wood utilization in the pulp mill. Now being built nearby this new barking-chipping plant is a build-

ing which will house equipment for processing the bark. It will supply about a carload of finished material per day.

The bark will be processed as fast as the market will absorb it. The more the market expands, the more logs can be barked, until eventually it will be economical to begin an operation which will bark all logs before they go into the mills.

A cork byproduct which will be used in making resin glue for plywood manufacturers is one which particularly pleases Mr. Heritage. The glue was tested in Weyerhaeuser affiliated plywood plants and found to be well suited for use in exterior type plywood, with a substantial reduction in cost over types previously employed.

The new industry will require a crew of 15 men to start with and another 15 when full production is achieved. The buildings will have a floor area of 7000 sq. ft. and it is expected that about a carload of finished product will be produced per day.

Career of Weyerhaeuser's Morgan Spans This Continent and Europe

Howard W. Morgan, who will succeed to the managership of the Pulp Division of Weyerhaeuser Timber Co. during 1947, when R. B. Wolf retires, is presently traveling in the Middle West and Eastern U. S. and Canada on Pulp Division matters. His appointment was announced in our October issue by Charles Ingram, general manager of all Weyerhaeuser operations.

Mr. Morgan will move to Longview, Wash., with his wife, the former Eldora Linnell, of Rumford, Maine, and their three children around Jan. 1.

The Morgans have purchased a home in Longview—one of the most important pulp and paper industry centers on the continent—at 2119 Northeast Nichols Boulevard. There are three pulp and paper mills in that modern city and a half-dozen others not far distant in the Columbia-Willamette valley. Mr. Morgan's duties will frequently take him to Everett and Tacoma, where other operations and offices of Weyerhaeuser Timber Co. are located.

In his eastern travels, he was to visit Espanola, Ont., where KVP has built a new modern sulfate mill, described in an article in this issue, and whose methods and system in some regards will be duplicated in the new sulfate mill being built by Weyerhaeuser Timber Co. in Longview.

Mr. Morgan served successfully as technical director, mill manager and



HOWARD W. MORGAN, appointed to become Manager of Pulp Division, Weyerhaeuser Timber Co., succeeding R. B. Wolf, who will retire. Mr. Morgan is traveling in the east on Pulp Division matters and will settle in his new home in Longview, Wash., about Jan. 1.

vice president at the Munising Paper Co., Munising, Mich., during the past eight years.

Prior to that he was research associate at the Institute of Paper Chemistry, Appleton, Wis., from 1934 to 1938. He was in charge of the pulp and paper manufacturing section. This work involved consultation and research for various member mills of the institute. He supervised extensive research in the sulfite pulping process and on

Masonite process for wallboards.

In the early months of 1945, Mr. Morgan accompanied Ernst Mahler, executive vice president of Kimberly-Clark, and Dr. Otto Kress of the Institute, on a European assignment for the U. S. Army. As was reported in this magazine at the time, these gentlemen surveyed French, Belgian and Dutch paper industries with a view to stimulating paper production for army needs. In Belgium a considerable tonnage was manufactured for the U. S. Army.

"Captured German government pulp was used. It was brought into Belgium from Western Germany," said Mr. Morgan. "The program was continued after V-E Day, using pulp brought in by the army from Sweden."

Born at New Milford, Penn., Jan. 26, 1902, Mr. Morgan was graduated from Syracuse University in 1926 and obtained his M. S. degree there in 1927. He worked during vacations at Hammervill Paper Co., and International Paper Co. mills. For the next four years he was employed at Oxford Paper Co. as research and development chemist in charge of chemical pulp research.

He was assistant professor of pulp and paper manufacture at Syracuse from 1932 to 1934, prior to joining the Institute faculty.

The Morgan's three children are Elizabeth, now 6 years old, Susan, three, and Charles L., approaching the respected age of six months.



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ENGINEERS OF PULP AND PAPER MILLS of the U. S. and Canada, meeting recently in Milwaukee, made a trip through the A. O. Smith Corp. plant in that city. Here some of them are shown looking at the bottom head of an acid tank made by A. O. Smith for a Wisconsin mill. In accordance with this company's exclusive technique, the tank is of spot-welded alloy-lined construction to accommodate extremely severe corrosive conditions. A new type of steel-alloy lined all-steel digester weighing 130,000 lbs., for one of the Pacific Coast pulp mills was shipped in prefabricated sections by A. O. Smith to Seattle recently, assembled at

Hydraulic Supply Mfg. Co. there and sent to its final destination on a barge.

Third man from left in above picture is Arnold C. Urban of Marathon Corp. Continuing, in order, to right are: Mr. Reeve of Abitibi Power & Paper Co., Ltd.; Arthur May of Thilmany Pulp & Paper Co., Kaukauna, Wis.; Louis Van Arsdale of Rayonier Inc., Shelton, Wash. (Behind Mr. Van Arsdale, almost entirely obscured, is Lawrence K. Smith, Manager of PULP & PAPER INDUSTRY), and H. H. Richmond (wearing hat), of Electric Steel Foundry Co. Mr. Richmond is serving as Moderator at TAPPI Round Table on "Corrosion" in Everett, Wash., Dec. 3.

Superintendents In South and West Tour Mills--Elect New Officers

Two highly successful conventions of Superintendents were held in Seattle, Wash., and Jacksonville, Fla., in November, both well attended by groups which are among the largest and most active in that international organization.

An outstanding event in the Pacific Coast meeting was a talk by Svarre Hazelquist, technical director of the Longview, Wash., mill of Weyerhaeuser Timber Co., who told about various new developments he observed in both Norway and Sweden and these are reported fully in this issue (see page 58).

Despite the fact that he is going to be plenty busy this next year as operating head of the new sulfate pulp mill of Weyerhaeuser Timber Co. at Longview, Gerald F. Alcorn consented to serve as the 1946-1947 chairman of the Pacific Coast division of Superintendents. He was elected to that post, although he was touring kraft mills in the east at the time of the meeting in Seattle on Nov. 22-23.

Chester Mulledy, superintendent of the Rayonier mill in Port Angeles, was elected first vice chairman and Fred Armbruster, Dow Chemical Co., is carrying on another year as secretary-treasurer.

At the joint meeting of Southern and Southeastern Superintendents,



ARTHUR N. SCHULTZ (left), Supt. at Camp Mfg. Co., Franklin, Va., and RAY ALMAND, Paper Mill Supt., Union Bag & Paper Corp., Savannah, Ga., who are—respectively—the new Chairmen of the Southeastern and Southern Divisions of the Superintendents Association. Art Schultz was a former superintendent at St. Helens, Ore.

They were elected at joint meeting of two groups in Jacksonville, Fla., in mid-November.

held in Jacksonville, the registration—including ladies—totaled 311—and these new officers were elected:

For Southeastern Division—Chairman, Arthur M. Schultz, Camp Mfg. Co.; First Vice Chairman, Harry J. Kruse, Albemarle Paper Co.; Second Vice Chairman, Lee M. Bauer, Ecusta Paper Corp., and Secretary-Treasurer, Sam Hellberg, Camp Mfg. Co.

For Southern Division — Chairman, Ray Almand, Union Bag & Paper Corp.; First Vice Chairman, Frank Jensen, Hollingsworth & Whitney Co., Mobile, Ala.; Second Vice Chairman, Phil Hannan, Southern Advance Bag & Paper Co., and Third Vice Chairman, Andrew Downey, Florida Pulp & Paper Co. The secretary-treasurer was to be selected later by the chairman.

Tough luck hit twice in the Southern groups as two men—James R. Almand, Union Bag & Paper Corp., and Earl L. Hobaugh, St. Joe Paper Co.—were both injured in accidents before the meeting and could not deliver papers at the sessions as they had planned. Mr. Hobaugh of St. Joe, Fla., broke his leg. Mr. Almand slipped and fell in the Savannah mill but was not seriously hurt although X-rays were to be taken to make sure.

Mill Trips Feature Meetings

Both the Pacific Coast and the Florida meetings were featured by mill trips and many participants said that they got more out of those opportunities to see actual operations than if they had spent that time in meetings. Never before have these groups gone so strongly for mill visitations. The big whole log hydraulic barking plants in Everett, Wash. — Soundview's and Weyer-

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P.S.—Blake, Moffitt & Towne will continue to act as Jobber-Distributors
of Powell River newsprint on the Pacific Coast.

haeuser's—were seen by the Pacific Coast delegates. Both of these have been written up in past issues of this magazine.

The party that toured the National Container Corp., in Jacksonville, and Container Corp. of America in Fernandina, Fla., and lunched at Fernandina Beach, totaled 50 in the party. The visit to Rayonier at Fernandina was canceled as the mill was "down" temporarily. At the Jacksonville board mill, the visitors saw wood preparation, conveying and other equipment which were described and illustrated in a page of pictures in the June, 1946, issue of *PULP & PAPER INDUSTRY*.

A highlight of the Seattle meeting's luncheon on Nov. 23 was a talk on Americanism by Matthew W. Hill, recently elected Washington State Supreme Court Justice, who was introduced by Lawrence K. Smith, manager of *PULP & PAPER INDUSTRY*. Mr. Smith was the toastmaster.

Charles Ackley, of the Crown Z mill in Port Angeles, retiring chairman, had lined up a good program for the day. W. N. Coster, general superintendent of Soundview Pulp Co.; R. R. Russell, superintendent at Everett Pulp & Paper Co., and Harold Quigley, paper superintendent at Crown Z, Port Townsend, were moderators.

More details on both the Seattle and Jacksonville meetings will be published next month. In next column is a summary of one of the most significant papers given in Seattle.



GERALD F. AICORN (left), in charge of operations of new Sulfate Pulp Mill of Weyerhaeuser Timber Co., now under construction, who has been elected Chairman of the Pacific Coast Division of the Superintendents Association. He has been visiting KVP's new sulfate pulp mill in Ontario, described in this issue.

HAROLD QUIGLEY (right), Paper Mill Supt., Crown Zellerbach Corp., Port Townsend, Wash., who took prominent part in November Convention of Coast Superintendents in Seattle, presiding as Moderator of Paperboard Panel and also giving a talk on tracing freeness readings through board mill operations.

Pacific Coast Pulpwoods

By R. S. Hatch, Research Director, Pulp Div., Weyerhaeuser Timber Co., and W. F. Holzer, Chief Research Chemist, Fibrous Raw Materials Div., Central Tech. Dept., Crown Zellerbach Corp.

(Following is a summarization of this paper by *PULP & PAPER INDUSTRY*. The paper was presented before Pacific Coast Superintendents in Seattle Nov. 23 and National TAPPI in Detroit Sept. 27).

Timber stands in the Pacific Northwest have made it one of the principal pulp producing regions in the country, and favorable growth rate of the forests, if properly managed, can enable the region to maintain its position.

The forests are dominated by a relatively few species of conifers. There are very few deciduous trees available in commercial quantities, and these are practically negligible in comparison to total wood stands.

Inherent characteristics of western pulps attributable to the wood:

1. Fibers are large in size. These dimensions contribute to good strength . . . also tends to make the papers made from them bulky and porous.

2. Resistance to refining; until need for severe treatment was recognized, these pulps were considered inferior, but now with proper refining their strength is well known.

3. Western woods contain greater amount of natural organic dye-stuffs than most other pulpwoods.

Species Commonly Used for Pulpwood

Western hemlock (*Tsuga heterophylla*)—Best all-around pulpwood in region, and one of the best in the world. Good density, can be pulped by any process, gives yields higher than most. Well balanced as regards bursting strength and tear.

White Firs (*Abies grandis*)—Pulped by any process, and give comparable yields



to hemlock on a weight basis. Density is about 5% lower on average, and digester charges are reduced that amount. Pulp strengths are to the order of 5% lower. Pulp color — usually better; readily bleached.

Sitka Spruce (*Picea sitchensis*)—Can be pulped by any process. Density of wood 5% lower than hemlock; reduces digester yields that much. Strengths to order of 10% lower. Color probably highest of any species; therefore usually reserved for groundwood. Strangely, while its chemical pulps have lowest strength of common pulpwoods, its groundwood has highest.

Species Less Commonly Used for Pulpwoods

Western Red Cedar (*Thuja plicata*)—Minor species in the region, and found scattered in stands of other species. Only low quality logs or small ones find way to pulp mill. Pulped only by kraft process. High water solubility, to the order of 8%, and high lignin content which ranges from 29-32% instead of usual range of 26-30% in most softwoods. Low in density, usually 10% or more lighter than hemlock. Develops highest bursting strength of any species in region. Also, fibers are finer and shorter.

Lodgepole Pine (*Pinus contorta*)—Minor species. Largest stands in Montana where a mill is projected, and from where small quantities are being shipped to Great Lakes mills. Use confined to kraft process. Better than usual forming characteristics.

Mountain Hemlock (*Tsuga mertensiana*)—Usually above 3,500 feet elevation. Pulps readily by the sulfite process, but is inferior to western hemlock in density, yield, and strength, both burst and tear. No data for kraft process; probably would parallel ones for sulfite.

Pulpwoods in California

Lack of large rivers close to timber stands . . . have been deterring factors to establishment of pulp industry.

Red Fir (*Abies magnifica*)—Can be pulped by either acid or alkaline process; more easily by latter. Low in density, good yield. Bursting strength is good, but tearing resistance low.

White Fir (*Abies concolor*)—Pulps more readily by sulfite process than does red fir. Density fairly low, yields are good. Strength comparable to white firs found farther north.

Ponderosa Pine (*Pinus ponderosa*) and Sugar Pine (*Pinus lambertiana*)—Most abundant in northern California and southern Oregon. Value in lumber kept them from being used for pulp; sawmill waste is potential source of pulpwood. Reduced only in kraft process; good yield; fair strength.

Redwood (*Sequoia sempervirens*)—No use in pulp; low density; high water soluble fraction; longest of any wood fibers; strengths low in burst, but good in tear.

Pulpwoods in British Columbia and Alaska

Pulpwood species same as in Oregon and Washington. Douglas fir decreases as we go north; hemlock becomes dom-



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Among the new machines under construction by Puseyjones are three of the largest and fastest Fourdrinier Machines, one for book and high grade printing papers, one for white paper for bags, and one for Kraft liner board; also one Cylinder machine of record size and speed for the manufacture of floor covering felt. Other machines are under construction for the manufacture of M. G. Kraft specialties, facial tissues, and high grade bristols.

Puseyjones Engineers will welcome the opportunity to work with you in solving production problems.

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PACIFIC COAST TAPPI HOLDS CORROSION SESSION

Pacific Coast TAPPI's Dec. 3 meeting in Everett, Wash., will be devoted to one of the timeliest subjects of the day in the industry, and particularly in the sulfite pulping division of it. "Corrosion" is the topic and with mills currently substituting ammonia and magnesia for calcium base cooking of sulfite pulp, this has become a problem of prime importance.

Harry H. Richmond, chief engineer of Electric Steel Foundry Co., Portland, Ore., will be the moderator. This round table session will be held in Masonic Temple, Wetmore and Everett Ave., Everett, beginning at 2:30 p.m. At 6 p.m. the group will repair to the Everett Country Club, south of the city for refreshments and dinner.

Henry E. Becker, Soundview Pulp Co., will present a paper, "Determination of Alpha and Beta Cellulose," which will be the first paper entered in the Shibley Award contest for 1946-1947, a contest open to young employees in actual mill operations on the Pacific Coast. It was erroneously reported last month that a paper on refining laboratory tests by Herbert Wymore of Crown Zellerbach Corp., given at the Portland, Ore., meeting was entered in the contest. Mr. Wymore's paper was given in the place of a paper which had been scheduled for the Shibley contest.

Irwin Thieme and Ken Chapman, technical directors respectively of the Soundview and Weyerhaeuser mills in Everett made arrangements for the meeting there.

inant species with spruce more abundant. Trees are not as large, except some stands of spruce on some coastal islands.

Quality of Douglas Fir Pulp

Large fibers typical of western pulps reach greatest size in Douglas fir. It is necessary to use larger openings in screen-plates, usually by about 25%. Pulp is quite free, and because of good drainage on the wire, it requires more water in headbox. Large fibers make the sheet more porous, easier drying; also make paper bulky and low in finish. Douglas fir pulp has outstanding tearing resistance and a low bursting strength. Practice of papermakers has been to insist on bursting strength to the exclusion of other qualities, and to condemn a pulp deficient in this quality. Color of unbleached pulp is darker than other pulps. Can be lightened by reduction type bleaches. Pulp can be bleached to high whites.

Several laboratories have proposed means of pulping Douglas fir by the sulfite process, but no results to date could be considered safe for commercial application without a soluble base, and this introduces economic complications.

Unless high alpha-cellulose content of Douglas fir proves of interest to manufacturers of dissolving pulps, sulfite pulping of this species appears to be inadvisable in view of the difficulties in digester and quality of the pulp.

Pulping of Douglas fir by the sulfate process presents no particular problem.

Published experimental work may be summarized by saying that the cooking variables of the sulfate process affect qualities of Douglas fir pulp in a manner similar to pulps from other woods.

Economic Aspects of Western Pulpwoods

It has been demonstrated that Douglas fir kraft may be bleached by proper methods to a brightness fully equal to bleached kraft pulps made from other species and that this bleached pulp possesses unique papermaking properties on account of its high tearing strength and high folding endurance.

Studies indicate that there is approximately 25 cords of sound wood per acre left on the ground after a logging opera-

tion. Previous attempts to salvage this waste material with the logging equipment used for primary logging have demonstrated the unprofitable character of this method. There are indications that means will be found to bring out this waste material at costs below the figures shown when using the customary west coast logging equipment.

If a reasonably successful clean-up can be made of the forest floor after a logging operation, the point may be reached eventually where it will not be necessary to do slash burning, at present required by law. If burning can be avoided, reproduction may be advanced



JOHN H. BREWER, whose appointment as sales executive of Bulkley, Duntun & Co. is announced by J. C. MARTIN, Vice President. He is a past president of New England Paper Merchants Association and was a vice president of Paper House, New Haven, Conn., and of Storrs & Bement, Boston.

A flyer in World War I, Mr. Brewer was also an Air Corps colonel in World War II and was military governor of a Japanese province, where he escaped a shot by a Jap officer.

by fully ten years, since burning delays germination of seed. Growth rate may be greatly increased by proper thinning. New equipment and new engineering methods must be developed before thinning of second growth can be economically justified. When this condition is realized, the industry will have available an appreciable quantity of young, sound wood readily handled by pulp mills.

During past 15 years, timber owners in the Pacific Northwest have gone into intensive forest management with view of maintaining a sustained yield from the forest, protecting heavy investments in mills and processing plants as well as furnishing continuous employment. The growing of timber is gradually being organized as an agricultural cycle in which a crop may be considered to mature in 80 to 100 years under the favorable rainfall and soil conditions west of the Cascade summit.

When we have developed the required technique of forest management, a substantially perpetual supply of west coast timber species may be expected.

Weyerhaeuser Program

The Weyerhaeuser Timber Co. is engaged in converting their sulfite mill at Longview, Wash., from calcium to magnesium base and will evaporate and burn the waste liquor in suitably constructed boilers for recovery of steam and power, at the same time recovering magnesium and sulfur in the form of magnesium bisulfite or reclaimed cooking acid. At present, the sulfite mill at Longview draws steam and power from the lumber division power plant which burns hogged Douglas fir waste.

It is expected the steam and power generated in burning of the waste liquor will render the sulfite mill substantially self-sustaining as far as steam and power are concerned. The sawmill waste presently burned in the sawmill boiler plant to supply the sulfite mill may be utilized for manufacture of pulp.

Exhaustive tests of sawmill waste available, to which, of course, is added the waste saved by the installation of the waste liquor recovery plant, are the bases for erection of a 200-ton bleached sulfate mill by Weyerhaeuser Timber Co., using Douglas fir sawmill waste as a raw material.

Utilization of Douglas fir as a source of kraft pulp will still leave fully 50% of the organic material in the wood for the generation of steam and power and will extract the more valuable cellulose for our expanding cellulose consuming industry.

At present, it appears that sawmill waste can be used as a raw material for pulp production only in larger sawmills equipped with efficient barking equipment and producing sufficient waste, immediately adjacent to a pulp mill of sufficient capacity to assure economical productions.

Camas Band Goes To Rose Bowl Game

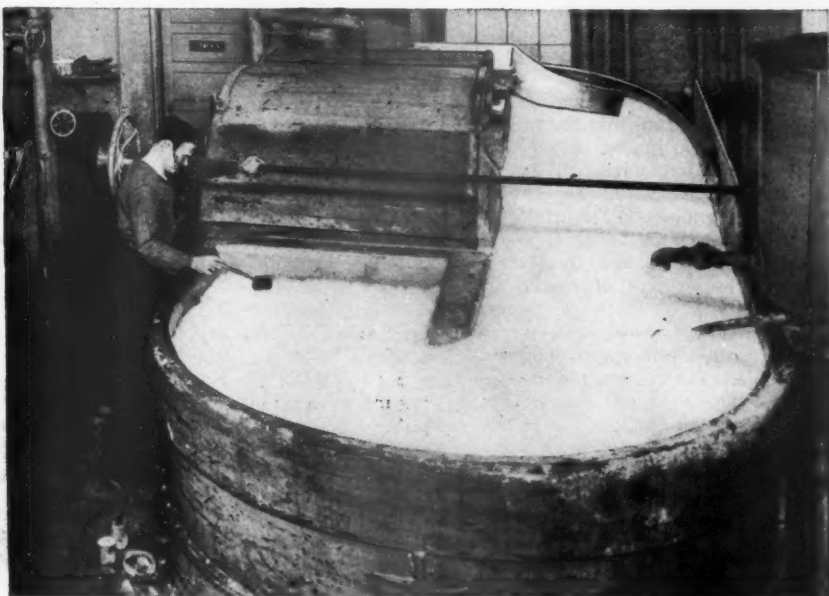
The Camas High School Band, Camas, Wash., where Crown Z has its biggest mill, has accepted invitation to attend the Rose Bowl game and Tournament of Roses parade on New Year's Day at Pasadena, Calif. Fifty members of the band and chaperones are to make the southern trip in special Pullman cars, and the home community is raising \$5500 for this purpose.

SPECIFY "GENERAL CHEMICAL"

for quality papermaking chemicals

GENERAL CHEMICAL COMPANY
products for the paper industry

- Aluminum Sulfate (Standard and Iron Free)
- Copper Sulfate
- Muriatic Acid (Hydrochloric)
- Sodium Fluoride
- Sodium Silicate
- Sodium Metasilicate
- Glauber's Salt (Crystal or Anhydrous)
- Salt Cake
- Sodium Sulfide
- Sodium Hyposulfite
- Sodium Sulfite (Anhydrous)
- Sodium Bisulfite (Solution or Anhydrous)
- Disodium Phosphate
- Trisodium Phosphate
- Tetrasodium Pyrophosphate
- Sulfuric Acid
- Nitre Cake (Sodium Bisulfate)
- Nitric Acid



Making quality paper depends to a large extent on the quality of the chemicals used. General Chemical Aluminum Sulfate, for example, either in the Standard or Iron Free grades, will help maintain quality in your paper from the start. General Chemical's carefully controlled production methods insure "Alum" of uniform quality and concentration, and a low percentage of impurities.

Next time, specify these quality General Chemical products for *your plant*:

ALUMINUM SULFATE

Standard—Lump, Ground 99% thru 8 mesh, 95% thru 10 mesh; Powdered, 95% thru 100 mesh.

Iron Free—Lump, approx. 2½"; Ground, thru 8 mesh.

SODIUM SILICATE

Solutions: from 38°—60° Baumé
Appearance: Opalescent to clear

Wt. Ratio (Na₂O to SiO₂)
from 1:2.00—1:3.40



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In Wisconsin: General Chemical Wisconsin Corporation, Milwaukee, Wis.

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Innovations in Sweden and Norway—Heat Recovery and Hydraulic Barking

A report on a five week's tour of the Swedish and Norwegian pulp and paper industries by Svarre Hazelquist, technical director of the Longview, Wash., mill of the Pulp Division, Weyerhaeuser Timber Co., was one of the "attractions" at the well-attended fall convention of Pacific Coast Superintendents, held on Nov. 22-23 at the New Washington Hotel in Seattle. He had just returned Nov. 2.

Summing up his observations, Mr. Hazelquist reported that the mills in Norway were running at less than 50% production capacity due to wood shortages, while the Swedish mills were running at about 75% of normal capacity.

"Those mills visited in Norway showed the neglect of repair and upkeep caused by the war," he said. "Very little new equipment has been installed but major modernization plans are in store for the near future. These include modern bleaching equipment and the installation of paper mill equipment.

"The pulp mills in Sweden had been kept in good repair and the majority have installed modern equipment, both for paper grade and rayon pulp," said Mr. Hazelquist. Of the modernization equipment, he was impressed with the bleach plants, which were of the continuous type except for the final hypochlorite stage which was usually batch operated. Much effort has been put into utilization of the recovery of alcohol in Sweden, with two mills having complete chemical by-product industries built upon alcohol recovered from sulfite waste liquor.

In amplifying some of his remarks before the Superintendents in an interview with PULP & PAPER INDUSTRY, Mr. Hazelquist said management-labor relations in Scandinavian countries were pretty well settled into a stable pattern with industry-wide negotiations and that there was no evidence of any lack of cooperation in the pulp industry.

Mr. Hazelquist was greatly impressed by the three big modern experimental laboratories he visited; The Paper Industry's Research Institute at Oslo, Norway; the new Swedish Cellulose Co.'s laboratory at Sundsvall and the University of Stockholm facilities, jointly controlled by state and industry.

"These laboratories would be tops in any country and have the very



SVARRE E. HAZELQUIST, who reports upon Norway and Sweden.

best equipment and fully-supplied pilot plants," he said. "They are evidence of the determination of these industries and countries to miss no bets in improving their operations and the quality of their products."

Scandinavian countries are making more highgrade paper and rayon pulps and are getting away from groundwood and unbleached grades. This brings them greater return for their raw materials and as more pulp is going into rayon, there will be less for export as paper pulp. Of course the rayon pulp plants, he observed, can easily and quickly change back to paper grades in event their market for rayon grades becomes restricted.

One mill he visited at Sarpsburg, Norway, makes not only high alpha sulfite pulp and paper but it also operates its own staple fiber rayon mill which has a yearly capacity of 10,000 tons.

In connection with wood cleaning, one of the interesting pieces of equipment he saw was a ring-type hydraulic barker which had been in operation for the past 15 years. This unit barked the logs with a pressure of 450 lbs. per square inch but due to the low pressure did not do a complete job of wood cleaning and was followed by disc barkers. The majority of wood cleaning plants utilized drum barkers, after which the final cleaning was done by mechanical means.

Use of Ammonia Base

Another interesting plant was the Toten Sulfite mill in Norway which now utilizes ammonia instead of calcium base. Ammonia is used in order that the waste liquor may be evaporated and burned to recover heat.

"With coal and other fuel as scarce and high-priced as they are in Scandinavia everyone is vitally interested in processes to recover the heat value in the sulfite waste liquor," said Mr. Hazelquist. "While several companies are experimenting with various types of new equipment, the Toten mill is the only plant in Norway at present actually burning the sulfite waste liquor successfully. So far Toten has not been able to recover the chemicals in the liquor, but are hopeful of being able to do so in the future.

"The only mill burning waste sulfite liquor successfully at present in Sweden, is the Skutskars mill which uses sodium instead of calcium base."

Using ammonia, the Toten mill can cook the pulp at a lower temperature which gives them a higher yield of pulp from wood. This is important as wood costs have gone up tremendously since before the war. While the heat recovered is not sufficient for the total steam demand, the major part of purchased fuel has been replaced.

"Influencing the policies of both Swedish and Norwegian pulp mills as far as we can see in the future," he said, "is the fact that they probably never will get the extremely cheap coal again from England or anywhere else. It is no wonder they are interested in burning waste liquor for fuel and are tremendously interested in every possible way to recover heat values."

Other Innovations

In a sulfite mill at Holden, Norway, he saw a carbon brick lining in a sulfite digester which had been in service for 3 years with very little signs of wear. The operators are convinced that the carbon lining will give them better service than any other of the ceramic linings so far developed in Scandinavia. Carbon brick is not used in the North American sulfite industry and only to a limited extent in the sulfate industry.

"Every bit of wood is utilized to the best possible advantage in these countries," said Mr. Hazelquist.

He visited a Swedish mill where the "foam" from waste liquor is used in an experimental insulation board for refrigeration, but he said this was not a commercial project as yet.

**DEPENDABLE
SERVICE**

to western paper mills



BEAR BRAND CHEMICALS

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CAUSTIC SODA
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SULPHUR DIOXIDE**

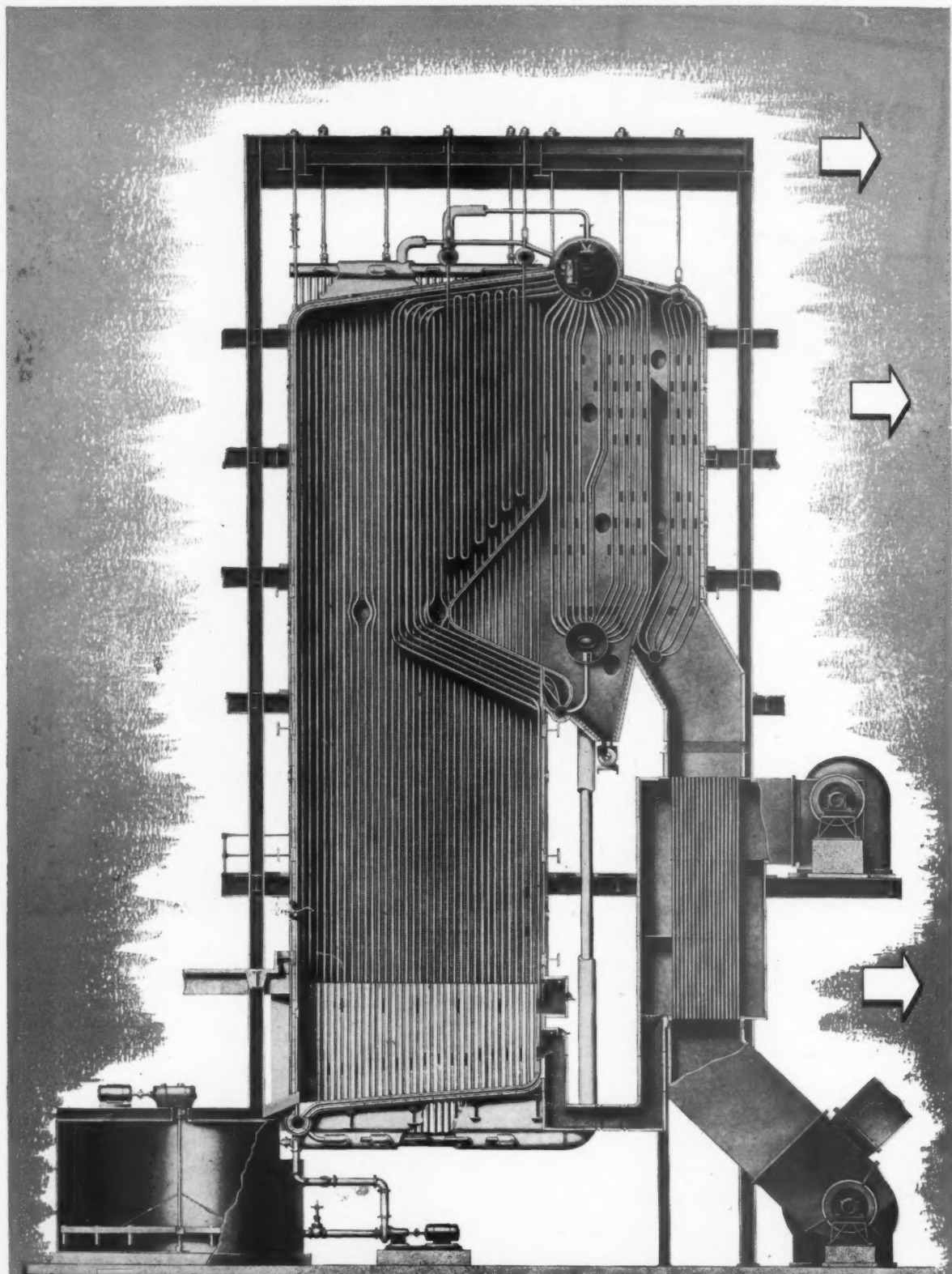
**GREAT WESTERN DIVISION
THE DOW CHEMICAL COMPANY**
SAN FRANCISCO CALIFORNIA
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Industrial chemicals bearing the Bear Brand label are manufactured in the West, for Western Industry. The extensive "local" facilities of Dow's Great Western plant are serving the increasing demands of the West Coast pulp and paper industry for dependably uniform, high quality chemicals.



DOW

**CHEMICALS
INDISPENSABLE TO INDUSTRY**



B & W-TOMLINSON CHEMICAL RECOVERY UNIT

Industry's

BIGGEST ORDER

for Chemical Recovery Units

...to **B&W**

A Southern paper company has ordered four 275-ton and one 125-ton B&W-Tomlinson Recovery Units. In point of both number and capacity, these five units constitute the largest single contract ever awarded for chemical recovery equipment. Significant also is the fact that the four larger units are duplicates of a B&W-Tomlinson Recovery Unit recently installed for this same customer.

HIGH CHEMICAL RECOVERY is an outstanding feature of B & W-Tomlinson Recovery Units. Ask a B & W representative to tell you about it...to send you a copy of a new bulletin on Chemical and Heat Recovery.

275-ton unit illustrated on opposite page.

G-359 T



Water-Tube Boilers, for Stationary Power Plants, for Marine Service . . . Water-Cooled Furnaces . . . Superheaters . . . Economizers . . . Air Heaters . . . Pulverized-Coal Equipment . . . Chain-Grate Stokers . . . Oil, Gas and Multifuel Burners . . . Seamless and Welded Tubes and Pipe . . . Refractories . . . Process Equipment.

BABCOCK & WILCOX

THE BABCOCK & WILCOX CO.
GENERAL OFFICES: 85 LIBERTY ST., NEW YORK & N.Y.
WORKS: ALLIANCE AND BARBERTON, O.; AUGUSTA, GA.



Front view of mechanical tree planter developed in the south which plants up to 9,000 seedlings in eight hours.

MACHINE PLANTS 9000 SEEDLINGS IN EIGHT HOURS

Speedier pine seedling planting through the use of a tractor drawn device by which it is possible to accomplish more in an hour than performed by a good steady worker setting by hand in a day is a recent and most promising advancement for southern forestry practice. This device has been developed at the instigation of Southern Kraft Division, International Paper Company, and tested by it, in connection with its Blountstown, Fla., pine plantation lands.

In its present stage of development, the tree planter has proven effective in old fields. Further development now being planned will render it effective in open or sparse stands, and in areas where stumps must be avoided.

The planter was made in the Valdosta, Ga., shop of Waldron Machine Works, of which D. W. Waldron, Sr., and D. W. Waldron, Jr., are principals. The younger Mr. Waldron worked closely on the device

before turning it over to Allen Stewart, IP forest supervisor in the Blountstown area. The Waldron Machine Works serves as distributor for Allis Chalmers Manufacturing Company in that section.

The planter has been used on several hundred acres, and its best full day record was something over 9000 seedlings in eight hours. Survival on this planting was 90 percent. The best results are obtained by having a good man do the work, and the machine operator was paid 70c per hour.

Previous tests resulted in the setting of 100 trees in 3 minutes, 300 in 12 minutes, 1100 in one hour, and 8000 in 5 hours. Examination of test plantings had indicated that the dirt was satisfactorily packed around the roots. In an old field the mould board goes so deep that the seedling cannot U-root.

The best planting speed is around 2 m.p.h. The planter is drawn by

an International Harvester Farmall F.20.

The fundamental construction of the planter (see illustrations) consists of a 20 inch rolling colter followed by a plow point with parallel mould boards which make a trench 3 inches wide. The rolling colter is set 2 inches deeper than the trencher to avoid hanging up the plow point on a root. The trencher can be raised by means of a foot pedal to clear debris, or can be elevated by hand.

The pine seedling is placed in the trench by the man riding on the planter, who controls depth of planting. He holds the seedling in place until two small perforated wheels press enough soil against it to hold it. A rear pair of larger wheels perform the final soil packing operation.

The colter, trencher, and small wheels are towed from the front axle.

(Continued on page 64)

THE MEAD SALES COMPANY

230 PARK AVENUE, NEW YORK 17, N. Y.
111 W. WASHINGTON STREET, CHICAGO 2, ILL.

MEAD
pulp

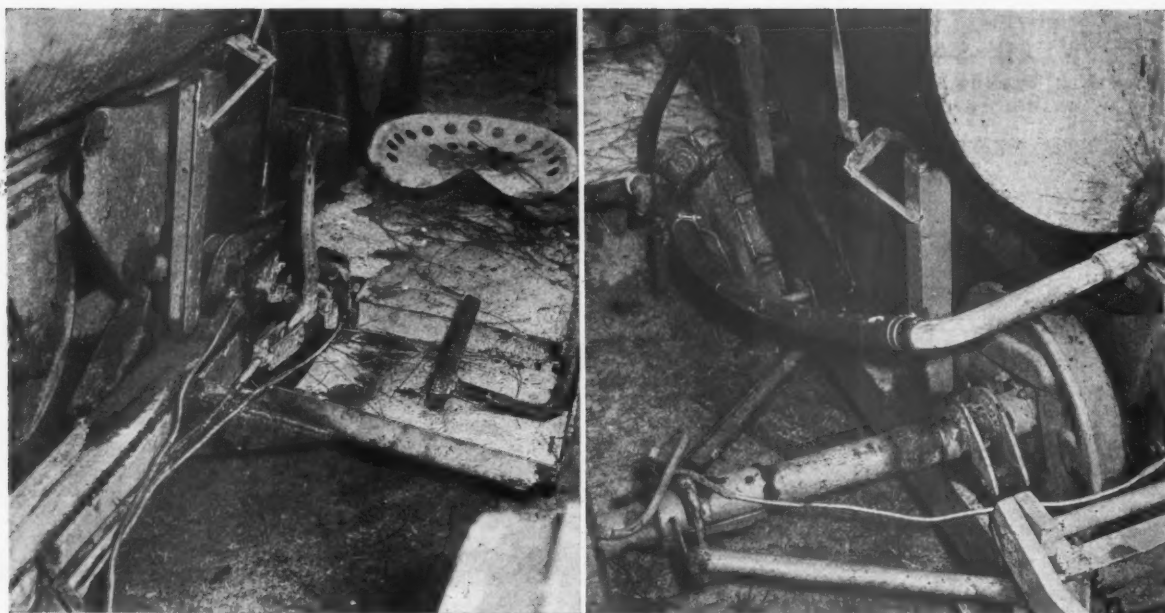
DISTRIBUTORS OF WOOD PULP

BLEACHED AND UNBLEACHED
CHEMICAL AND MECHANICAL WOOD PULP



Paul Bunyan had seven mighty axemen . . . all brothers, named Frank. When Paul yelled "Frank!" all seven rushed to answer.

A reproduction of this incident from the fabulous life of Paul Bunyan—the thirteenth of a series—will be sent on request. It will contain no advertising.



Left—Side view, showing pedal to lift coulters to clear debris, seedling planter's seat, other details. Right—Side view showing water connection, measuring wheel, coulters.

Planting on sharp curves is not advisable because the packing wheel on the inside of the curve treads on the seedling.

The planting machine is equipped with a 100 gallon water tank and a measuring wheel which rings a bell when a seedling should be set, and, at the same time, open a valve to permit water to flow into the trench. These features are considered optional. The planter weighs 1600 pounds with empty water tank. It has an over-all width of 6-feet, and an 8 foot wheel base.

In its present status the planter is useful in old fields and open land. It would still be necessary to send a man into the woods with a dibble to hand plant sparse stands or places where stumps handicap the planter because of its turning radius. The next step planned is to mount the planting device on a larger tractor for use in the woods. This arrangement would provide the flexibility to dodge stumps and trees.

Lockport Felt Man Opens Coast Office

Alan Dunham, representative of pulp and paper mill supply companies including Lockport Felt Co. of Newfane, N. Y., and Griffith Rubber Mills of Portland, Ore., has opened up his own office at 219 Mayer Building, 1130 Southwest Morrison St., Portland, Ore., as a central point of operations for his extensive Pacific Coast business. The phone is Broadway 4076.

Alan and Marie Dunham, his wife, have a home at one of the highest points in Portland, 1059 S. W. Westwood Drive.

Tissue Machine Installed at Camas

Installation of Number 14 paper machine is in progress at Crown Zellerbach Corp., Camas, Wash. About half of the machine was installed by mid-November, when the third of seven cars transporting the machine was delivered at the plant.

According to J. E. Hanny, resident manager, this 100-inch Beloit facial tissue machine should be in operation the first of February.

No Price Boost

E. W. Pitt, director of sales, Central Paper Co. Inc., of Muskegon, Mich., has advised that although the OPA controls on paper have been removed, the company does not contemplate any immediate increase in basic prices.

W. G. HARTFORD (left), U. S. Gypsum Co., and JACK RHODES, Plant Engineer, Fernstrom Paper Mills, who were chairman and discussion leader, respectively, of October meeting of PAPERMAKERS AND ASSOCIATES OF SOUTHERN CALIFORNIA in Los Angeles. Mr. Rhodes, just back from six weeks' tour of eastern mills, led a discussion on maintenance problems.



State Control of Forest Cutting Is Favored

State foresters meeting in their 24th national convention, Oct. 2-4, in Augusta, Me., declared in favor of a cooperative plan to extend assistance to owners of small woodland tracts. They also opposed federal regulation of private cutting practices, declaring states are better able to undertake controls.

T. S. Goodyear, president of the association and Washington State forester, spoke against the Hook bill, introduced in the last congress, declaring it an attempt to "nationalize all forestry." He opposed further acquisition of lands for national forests without consent of legislatures of states concerned and asked for payments to states to offset tax losses when lands are acquired for national forests.

With respect to technical assistance to small woodland owners—non-farmers as well as farmers—the foresters adopted a resolution calling for a cooperative plan modeled on the pattern of the Clarke-McNary act, whereby assistance would be administered by the state foresters, financed by matching state and federal funds.

Chapin Collins, director of the American Forest Products Industries, Inc., declared growth of state forestry activities requires a public relations job.

H. J. Malsberger of the Southern Plywood Conservation Association; W. C. Hammerle of the Southern Pine Association, and Col. W. B. Greeley of the AFPI were among guests.

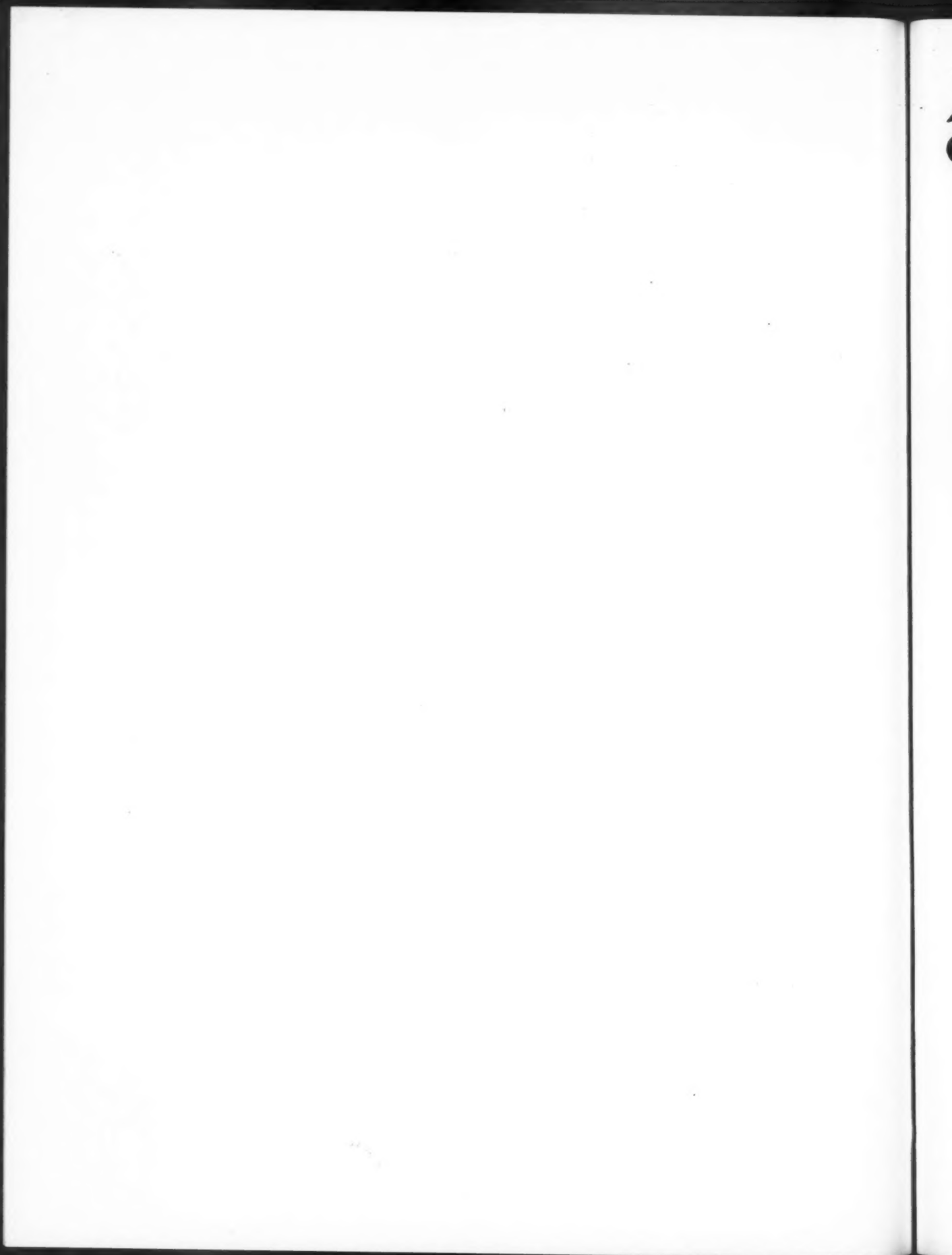
Ralph F. Wilcox, state forester of Indiana, was elected president, succeeding Mr. Goodyear. J. M. Stauffer of Alabama was elected vice president. R. Lynn Emerick, Pennsylvania, and Mr. Goodyear were elected members of the executive committee, to succeed Perry H. Merrill, Vermont, and Fred H. Lang, Arkansas.

*A*s for the past 67 years, we welcome Christmas . . .
pleasantest interlude in the business season . . . a time
to express to our ever-widening circle of friends
in the many industries we serve, our deep appreciation
of their cooperation throughout the year.

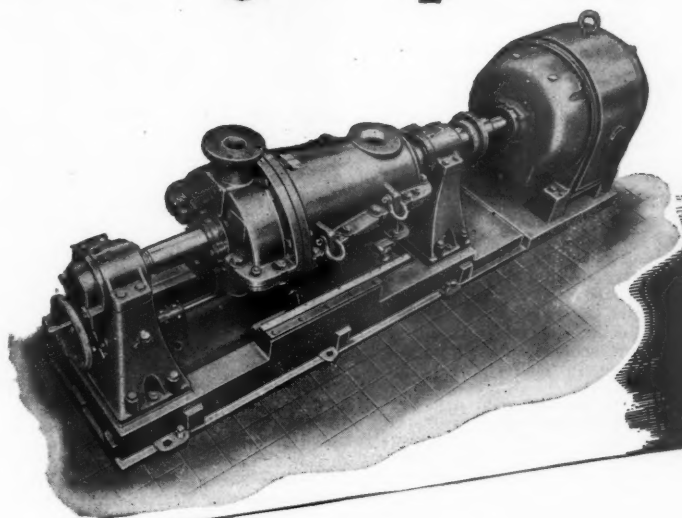
*We take this opportunity to wish you "A Very Merry
Christmas" and good fortune for the coming year.*

NATIONAL ANILINE DIVISION
Allied Chemical & Dye Corporation





a mighty mite *for stock preparation*



THE JONES
High Speed
REFINER

APPLICATION No. 4:—

In a mill making kraft condenser, the JONES HIGH SPEED REFINER completely eliminates many long hours of beating. By using a cycling arrangement, it produces a better sheet more efficiently.

APPLICATION No. 5:—

In a board mill, the JONES HIGH SPEED REFINER defibres over issue news (replacing a 150 H.P. Refiner). The stock comes slushed from breaker, passing directly into the Jones Refiner which runs at 1200 R.P.M., using 60 H.P., and producing 22 tons per day.

APPLICATION No. 6:—

In another mill, the JONES HIGH SPEED REFINER is used exclusively for clearing flakes from coated book broke (replacing a larger Jordan, 150 H.P. motor)—and operates at 900 R.P.M., using 40 H.P. Volume of stock handled is 2400 lbs. per hour, and more.



Jones

E.D. JONES & SONS COMPANY-PITTSFIELD, MASS.
Builders of Quality Machinery for Paper Mills

HEADS NPA

GEORGE E. DYKE, President and Chairman of Robert Gair Co., Inc., 155 East 44th, New York City, was elected the president of the National Paperboard Association at annual closed meetings Nov. 7-8 in New York, succeeding W. Irving Osborne, President of Cornell Woods Products.

An all-time record paperboard production of 8,200,000 tons for 1946 was officially predicted. The previous record—1944—was 7,922,900 tons.

Clipper Manufacturing Co. Builds New Plant

Clipper Manufacturing Co., manufacturers of clipper blades, masonry saws, etc., and a firm which has planned facilities for serving the pulp and paper industry, has completed a new factory and general office building at 2800 Warwick, Kansas City 8, Missouri.

The company's St. Louis office will be consolidated at the new headquarters and all engineering work and material purchases will be handled in Kansas City.

Manufacturing facilities have been expanded and a complete laboratory has been added, in which to test cutting results on every masonry material.

Neligh Coates is president and Robert G. Evans is assistant general manager of the Clipper Manufacturing Co. Other executives are Art Wiedmann, sales manager; Harold J. Wright, engineer; Laurence V. Michaux, export manager, and Robert M. Stubbs, assistant advertising manager.

The warehouse of the company's at 4030 Manchester, St. Louis, will continue to be operated. Branches are in Philadelphia and Austin, Tex.

Bill Geiger Loses Son

The dread polio disease struck a sad blow in the family of William Geiger, the sales representative in Chicago of the Pulp Division of Weyerhaeuser Timber Co. His ten-year-old son, Gary Geiger, succumbed. The Geigers have a younger daughter.

Honors Clark Everest

D. Clark Everest, president and manager of Marathan Corp., Rothschild, Wis., was recently presented with an honorary degree of doctor of business administration at Northland College, Ashland, Wis.

A New TAPPI Section

The Chicago Profession Paper Group, which meets every third Monday except in summer at the Chicago Bar Association dining room, has been charted as a new Illinois section of TAPPI.

Quebec Premier Refuses To Okay 3 New Mills

Premier Maurice Duplessis of Quebec has announced that he has refused the offers of three "powerful syndicates" to build new pulp and paper mills in Quebec. They are believed to be American groups, according to Canadian advices.

M. Duplessis also declared he was opposed to export of pulp from Quebec. He wants it all converted to paper there. He opposes new mills, he said, because he believes timberlands are only sufficient for existing ones.

The three offers, he said, were for investment of \$35,000,000.

Stebbins Executive Tours Scandinavia

Edward Tucker, vice president of Stebbins Engineering & Mfg. Co., Watertown, N. Y., returned last month from a trip to Norway and Sweden. The principal cities visited included Oslo, Gjøvic, Rjukan, and Kongsberg in Norway; and Karlstad, Stockholm, Gävle, Söderhamn, and Helsingborg in Sweden.

The purpose of Mr. Tucker's trip was to investigate developments in corrosion resistant linings which were rumored to have been carried out during the war with the assistance of German technicians. Said Mr. Tucker to PULP & PAPER INDUSTRY in New York:

"I found very few places where accepted techniques or materials employed here or over there could be effectively exchanged. The point which must be borne in mind regarding the lining used by the industry in Scandinavia is that their practices and methods are very different from ours. Conditions have brought about radical differences in specifications which, however, achieve about the same final results."

Ray Smythe Honored

Ray Smythe, Portland, Oregon, representative for The Bauer Bros., Springfield, Ohio, Heppenstall Company, Pittsburgh, Pa., Rice Barton Corporation, Worcester, Mass. and other manufacturers, was recently elected first vice president of the Portland Chapter of the Aero Club.

Crown Z Meeting

Executives, managers and supervisors of all divisions of Crown Zellerbach Corp., totaling 126 persons, attended a three-day meeting October 28-29-30 at Timberline Lodge, Ore.



R. H. R. "BOB" YOUNG, who has been named Manager in Charge of Manufacturing at Pacific Mills, Ltd., Ocean Falls, B. C., and also Manager of Canadian Boxes, Ltd., Vancouver, B. C., where he now makes headquarters. He is succeeded at Ocean Falls as Resident Manager by WILLIAM E. LOCKE, formerly Assistant. Born in Vancouver in 1902, Mr. Young went to Oregon State College, and worked in Port Mellon and Swanson Bay and Oregon mills, going to Ocean Falls in 1935.

Gets New Post



ANDREAS CHRISTENSEN, who has been transferred to an important post in the new Long Lac Pulp & Paper Co. at Terrace, near Screiber, Ont., where Kimberly-Clark Corp. is building a 300-ton-per-day bleached kraft pulp mill. Mr. Christensen has been Pulp Mill Superintendent at the Spruce Falls Pulp & Paper Co., Kapuskasing, Ont., another Kimberly-Clark subsidiary making sulfite pulp and—teaming with other key pulp men in the K-C organization—was instrumental in effecting important economies and increased efficiency in that operation in the past year.

Swenson Representatives "See the World"

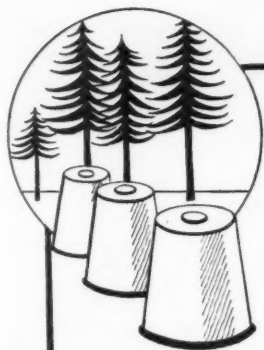
C. Ben Nyman, inventor of the Swenson-Nyman washer, and Roy A. Garnett, of Toronto, sales manager for Whiting Corp. of Canada, Ltd., have done quite a job of breaking in a new car between August 1 and mid-November, accumulating a total of some 16,000 miles on the highways of the United States and Canada.

G. E. Seavoy, vice president and manager of Swenson Evaporator Co., Whiting Corp. Div., Harvey, Ill., found that even telegrams failed to keep up with their speed. They made a tour of the South from Bogalusa to Virginia, three trips to Quebec and Ontario, and a western trip via Yellowstone and Montana to the Sorg Pulp Co. in Port Mellon, B. C., and Crown Z mills in the state of Washington.

Joe Blake, Seattle representative of Electrical Steel Foundry Co., which is associated with Swenson, accompanied them on part of their western travels.

Lund Made V. P. For Hudson Pulp & Paper

The appointment of Anton M. Lund as vice president in charge of production was announced today by the Hudson Pulp & Paper Co., manufacturers of household paper products. Mr. Lund will supervise production of the company's four mills, located at Bellows Falls, Vt.; Lansdowne, Pa.; Augusta, Me., and the new mill at Palatka, Florida. He will make his headquarters in Augusta, where he has been general manager.



IN THE PUBLIC INTEREST

Aided by consistent improvement in the wood cellulose which goes into its manufacture, rayon has greatly broadened its sphere of usefulness. Today there is hardly an individual who does not use rayon in everyday living, and this use is increasing daily.

Supplying a raw material so closely related to the public need imposes also a public responsibility. Rayonier, as the major producer of wood cellulose for the rayon industry, is alert to the challenge. Through extensive research, it seeks further improvement in existing wood cellulose, and also the development of new types for special purposes — often before a demand exists.

Prior to the war, for example, wood cellulose had not been used in making acetate rayon, although it had long been utilized for viscose rayon. In 1942 however, when the acetate rayon industry was faced with a shortage of raw material, Rayonier was ready with *Rayaceta* — a special wood cellulose for acetylation — which it had developed several years earlier.

The increased use of wood cellulose as the basic raw material for rayon, may be attributed in large measure to the steady improvements in quality — the development of special types in anticipation of a need — and the ability to custom-make this essential raw material for an industry which shows no signs of having reached the saturation point. In this manner, we are meeting our responsibilities "in the public interest."

RAYONIER
INCORPORATED

Sales and Executive Offices: 122 East 42nd Street, New York 17, N.Y.
Mills: Hoquiam, Port Angeles and Shelton, Wash., and Fernandina, Fla.

New Newsprint Machine Ordered by Powell River

Powell River Co., already one of the country's largest producers of newsprint, has placed a contract with Dominion Engineering Co., Lachine, Que., for a new high-speed newsprint machine. Bepco of Canada, Ltd., Montreal, will provide the electric drive. Delivery is called for during the first half of 1948.

Installation of this machine will result, according to the company, in a moderate increase in newsprint manufacturing capacity. Some less efficient productive equipment will be retired from the production of newsprint.

This is one of the first newsprint machines to be ordered in Canada for several years. Machine capacity

increase in recent years has shown marked trend towards kraft pulp and products other than newsprint.

Powell River Co. officials say that the investment cost on the new machine will be low as necessary buildings and power facilities are already provided.

The company currently has seven machines in operation, all on newsprint, and production has been at the highest level in the company's history, averaging more than 750 tons daily recently.

Powell River Co.'s hydraulic barking installation, construction of which was started more than a year ago, goes into partial operation this December.

New Sales Organization in U. S. For Powell River Sales

The Powell River sales organization announces purchase of G. F. Steele & Co., Inc., an American corporation with which it has long been associated. The name of the company has been changed to Powell River Sales Corporation.

The corporation, headed by Anson Brooks, will have its main office in the Skinner Bldg., Seattle, and Mr. Brooks will make his headquarters there. The Los Angeles office, headed by F. R. Ward, will be in the Security Title Insurance Bldg., and the San Francisco office, in the Russ Bldg., will be in charge of Donald L. Jeffries. The Manhattan office will be at the former Steele & Co. address, 400 Madison Ave., and will be headed by V. R. Coudert and E. E. Barrett.

Reason for this move is Powell River Sales Co.'s desire to create a more direct connection between itself and consumers of its newsprint and pulp.

The corporation will perform all functions for Powell River Sales Co. heretofore carried out not only by G. F. Steele & Co., Inc., but by Newsprint Service Co., Bulkley, Dunton Pulp Co., Inc., La Boiteaux Co. and Blake, Moffitt & Towne.

The corporation is presently operating in the Southwest market and will be-

come active in all markets as from Jan. 1, 1947. Blake, Moffitt & Towne, which has been actively and efficiently associated with Powell River products will carry out their outstanding contracts all of which expire Dec. 31, but will continue to purchase Powell River newsprint and act as warehouse jobbers of Powell River newsprint on the Pacific Coast.

Harold S. Foley, president, and William Barclay, vice president of Powell River Sales Co., will be on the board of directors of the corporation.

Describes Powell River's New Barking Plant

At the first meeting of the new Western Branch of the Technical Section of the Canadian Pulp & Paper Association, held in Vancouver, B. C., this fall, Ronald Stewart, of Powell River Co., described the new hydraulic log barking and big log chipping installation which is nearing completion at Powell River, B. C.

He said probably the whole setup would not be in full operation until early next summer. The company estimated that the barker-chipper installation would save about 50,000 feet of wood every 24 hours



PAUL D. CLOSE, former Technical Secretary of Insulation Board Institute, who has become associated with Simpson Industries, Inc., White Bldg., Seattle, Wash. He will be identified with manufacture and sale of the new Simpson insulating board and acoustical tile which will be made at the pulp and board mill now in course of construction at Shelton, Wash. Mr. Close, author of "Building Insulation," a book, and various papers on insulation and heating was formerly with Celotex and Johns-Manville.

of operation (equivalent to 100 cords)—a saving of roughly 20 per cent.

Mr. Stewart said that Powell River Co. also plans to put in a smaller Allis-Chalmers barking unit.

The log-haul now installed at Powell River Co. is an all-steel structure and thoroughly modern, Mr. Stewart said. Provision is made for conveying the barked logs either to the chipper or the sawmill or else returned to storage in the pond for subsequent use. The barker will probably be operated 16 to 24 hours a day, but the chipper will be able to handle the barked logs in a single eight-hour shift. New storage is being provided for 200,000 feet of logs in the water basin.

Archie W. DeLand has been appointed president of the Kingcome Navigation Co., subsidiary of Powell River Co., it is announced by Harold S. Foley, president. The position became vacant through the death of Sheldon Dwight Brooks, who was also chairman of Powell River Co.

A neighborhood firm

exporting Northwest pulp and paper

AGNER & FREDRICKSON Co.

Colman Bldg.

Seattle 4

Established in Seattle since 1925

Carl E. Braun Talks To Many Radio "Hams"

Carl E. Braun, vice president and mill manager of the Hawley Pulp & Paper Co., Oregon City, may have had a vacation from pulp and paper making on his recent motor tour of California, but he didn't have a vacation from his favorite hobby and the many "radio hams" like himself in distant lands.

He talked to Fairbanks, Alaska, Athens, Greece, and other points with equipment in his car. As many of his friends know, Mr. Braun, whose call signal is WTHRV, also has two elaborate high-powered receiving and sending sets in his home, which were made by himself.

Since 1909, Mr. Braun has become as widely known among radio "hams" all over the world as he is in this industry. They usually get him on 3940 KCs (or 3.9 MCs) between 5-6 pm. PST or on 1412 KCs from 6 to 10 pm.

Big Converting Plant For Vancouver, Wash.

One of the leading Middle West printing and paper converting companies, an important user of glassine and other similar products, will build a good-sized converting plant at Vancouver, Wash.

An area for the new plant has been vacated by the city alongside the Columbia River Paper Mills. It is most likely that this nearby mill and others in the region will supply paper for the plant.

Longview Fibre Men View Southern Mills

R. S. Wertheimer, vice president and general manager of Longview Fibre Co., Longview, Wash., accompanied by William J. Shelton, pulp mill superintendent, and William W. Clarke, assistant paper mill superintendent, of the Longview mill, made a tour of several Southern pulp and paper industries during October.

Another Petrie In Pulp and Paper Field

Gordon Petrie, electrical engineering graduate from Oregon State College, and eldest of three sons of Bob Petrie, western representative of Black-Clawson, Shartle and Dilts companies, has joined the engineering staff of Puget Sound Pulp & Timber Co., and Bellingham Paper Products Co., Bellingham, Wash., under Chief Engineer Harold Cavin.

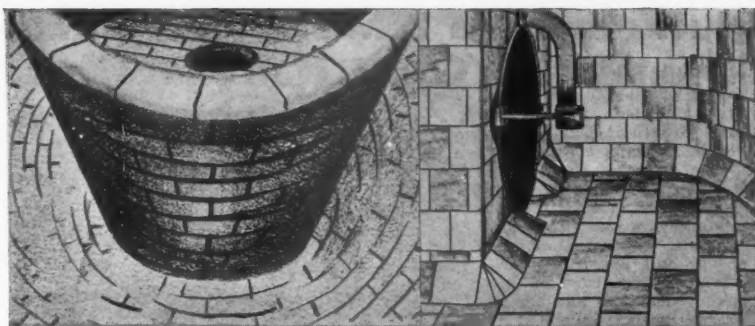
Young Petrie is married. As a lieutenant, he saw recent service in the Army Security Agency in the Philippines and previously as aide-de-camp to the general commanding AA headquarters in Manila.

Bob Heuer Is Better

Bob Heuer, shift superintendent at Weyerhaeuser Timber Co.'s pulp mill in Longview, Wash., is back on the job and fully recovered after an unfortunate protracted spell of being treated for arthritis when it was a metabolic ailment from which he was really suffering. Bob's many friends are glad he found the right doctor, at last.

Cavin Bags Big Moose

When bigger moose are shot, Harold Cavin, resident engineer of the Puget Sound Pulp & Timber Co., shoots them. Cavin rolled into Bellingham the other day with an 1100-pound moose from the Horsefly Lake region of upper British Columbia.



Practically Complete Coverage

A check of the newer (post-war) bleach plants on the North American Continent shows that practically all of them contain Stebbins linings.

This coverage is the result of working for 62 years with pulp and paper men in designing, installing and servicing linings and tile tanks exclusively.

This service has saved pulp and paper manufacturers many thousands of dollars. Ask a Stebbins lining or tank specialist to work with you on your next lining or tile tank job.



Stebbins Engineering Corporation

TEXTILE TOWER

SEATTLE 1, WASHINGTON

Kraft Paper Newspaper

The Philadelphia Daily Record, which has been publishing on \$95 a ton kraft paper because it couldn't get enough \$84 a ton newsprint, has been receiving inquiries from all parts of the country regarding its "brown paper" experiment.

The Record began with virtually all northern kraft, but has had to switch to mixing much darker brown southern kraft in about 50-50 proportion.

The Record has to make about three times as many stereotype plates as with ordinary white newsprint. Kraft quickly wears out plates on account of having to use so many impressions.

In regard to inking, the paper had comparatively little trouble with northern kraft. It absorbs nicely. But southern kraft repels ink. Rollers get filled and offset on the next page, the Record (printers) said. Seeking to solve the problem, the Record had Morrill Ink Co. make them up a special "brew" with heavier carbon content. This required further experimentation.

Kraft piles up some trouble in the pressroom. One day the Record tried running an entire 40-page daily issue on kraft. But they couldn't get in through the folders. When pin-points pulled out of the folder, it was apparent the press just couldn't handle the load.

On the presses, 34-pound kraft performs without tearing. Not a single tear was noted in 210 rolls. It seems it simply cannot be broken. Yet, as it goes up the conveyor, if the paper hits an obstruction of any kind, it just backs up everything coming behind it. The only thing to do is stop and clean out the conveyor.

In making engravings to print on kraft, the Record had to change the screen on all plates. It took a regular 60-screen, made a negative, sent it back to the art department where a velox was pulled. This was then blown up to one-third size, making a screen of approximately 42.

Two Men Join Mill At Coos Bay

Two new men have been added to the staff of Coos Bay Pulp Corp., Scott Paper Co., subsidiary, at the Empire, Ore., plant, according to W. Wylie Smith, vice president and manager.

A new technical director is George O. Nelson, from the Crown Zellerbach Corp., Camas, where he had been employed since 1938 with exception of a period on radar work for the army during the war. Mr. Nelson is a graduate in chemical engineering from the University of Washington and also formerly worked for Puget Sound Pulp & Timber Co., Anacortes, Wash., from 1936 to 1938 and for a short time with the St. Regis mill in Tacoma, leaving there at the time the plant shut down in 1938. Mr. Nelson and his wife will reside at Coos Bay.

Employed as chemist at Empire is James S. Brawn, from Pacific Mills, Ocean Falls, B. C. He is a graduate from the University of British Columbia with a master's degree in chemistry from the University of Toronto. Mr. Brawn, his wife and one child plan to reside at Empire.

Black-Clawson, Shartle and Dilts Open Pacific Coast Headquarters

The affiliated Black-Clawson Co., Shartle Bros. and Dilts Machine Works have opened what constitutes their only full-time branch office in the United States in Portland, Ore., with Robert T. Petrie, Pacific Coast representative for the three companies, in charge.

Industrial expansion of the industry over the full length of Pacific Coast, the great distance from the home offices of these companies and the need for a place of contact while Mr. Petrie is on his extensive travels were the reasons for the opening of this office, according to Allan Hyer, vice president in charge of sales, Black-Clawson Co., Hamilton, Ohio (headquarters for Shartle Bros. is at Middletown, Ohio, and for Dilts at Fulton, N. Y.).

Miss Irma Dillard, who has had previous experience in pulp and paper industry business on the west coast, will be in charge of the office when Mr. Petrie is traveling. It is in 219 Mayer Building, at 1130 Southwest Morrison St., Portland, and the phone is Broadway 4076.

Incidentally, Bob and Lillian Petrie, his wife, have recently sold their house and moved into an apartment only a few blocks from the office. Their private phone is Broadway 5977.

Maritime Strike Ties Up Pulp

The long maritime strike on the Pacific Coast which has beleaguered Alaska and caused great hardship there and elsewhere, was felt in the pulp and paper industry, too.

As much as 5,500 tons of sulfite pulp for Scott Paper Company at Chester, Pa., was tied up at the Empire, Ore., dock of its subsidiary pulp mill, Coos Bay Pulp Corp., at that coast town. That's a lot of pulp to be tied up at a mill producing around 70 tons per day.

The Port of Coos Bay has been closed to all American flag ships since June 30, 1946, as a result of a jurisdictional dispute between C.I.O. and A.F.L. Maritime Unions and this dispute still had the port closed when the general strike of maritime unions started on Sept. 30, 1946. This tie-up on water shipments together with the acute shortage of rail cars is responsible for the large accumulation of pulp at the Empire plant.

Tissue Industry Holds Fall Meeting

The annual fall meeting of the Tissue Industry Association was held Oct. 14-16 at the Shawnee Country Club, Stroudsburg, Pa., opening with a directors' meeting and launching then into an open meeting presided over by Joel H. Hartman, president of the association.

Labor relations and trade regulations came in for chief discussion, and recreation was golf under a committee of Sam Lopin, Hudson Pulp & Paper Co., chairman; John McKirdy, Jr., Scott Paper Co., and John Maloney, Hoberg Paper Mills. Mr. Lopin and Louis A. Straubel, Jr., Straubel Paper Co., tied for low net, with Gordon L. Ware, Straubel Paper Co., a close third.

At the closing banquet, E. W. "Ted" Tinker, executive secretary of AP&PA, pictured the overall industry, and John Maloney acted as toastmaster.



ROBERT T. PETRIE, Pacific Coast representative of Black-Clawson Co., Shartle Bros. Machine Co. and Dilts Machine Works, who have opened new offices in Portland, Ore.

Ed Den Dooven Is Supt. at Northern

Edward Den Dooven, long active in the Superintendents Association in his region, has become general superintendent of Northern Paper Mills in Green Bay, Wis. He was formerly with Hoberg Paper Mills of Green Bay.



PULP & PAPER INDUSTRY

Harry Schenk Reports Many Screen Projects

Harry F. Schenk, sales representative for the Fitchburg, Mass., paper equipment division (formerly Wm. A. Hardy & Sons) of Magnus Metal Corp., finds three principal reasons for the large number of new screen rooms built by pulp and paper companies throughout the North American continent:

1. Replacement of obsolete equipment, as a result of new developments.

2. To improve quality and make possible up-grading of paper products in the U. S., especially in the book paper field.

3. To improve the pulp product in Canada, making it more attractive as market pulp.

Mr. Schenk, whose company manufactures Bird and other rotary type screen equipment, made his first visit since 1941 to Pacific Coast mills of the U. S. and Canada in November. This trip was to be followed by one into the Southern U. S. industry and eastern Canada.

Cowles Co. Charges Patent Infringement

The Cowles Co. of Cayuga, N. Y., owners of patents covering the cowles Hydrapulper, has recently filed U. S. district court suits for patent infringement against San-Nap-Pak Mfg. Co., Inc., and Frost White Paper Mills, Inc., charging infringing of Cowles patents by using Apmew pulpers sold by American Paper Machinery and Engineering Works, Inc., of Glen Falls, N. Y.

The Black-Clawson Co. is licensed under the Cowles patents, having acquired license rights at the time it took over the Dilts Machine Works of Fulton, N. Y. The Dilts company developed the Hydrapulper.

"Logistics in Paper," A Survey for Executives

Many fine photographs showing actual handling of paper rolls, pulp packages, wet lap, etc., in pulp and paper mills by electric trucks feature a booklet entitled "Industrial Logistics in Paper," issued by Elwell-Parker Electric Co., Cleveland, O.

In 48 pages, 8½ x 11 inches, it presents 147 halftone illustrations. A total of 136 companies contributed data and cooperated in preparation of the booklet which reveals how adequate facilities for load-handling are essential to specialized manufacturing equipment and techniques. The booklet is available to mill executives or managers on request to Elwell-Parker Electric Co., Cleveland, O., or its field representatives.

Texas Gulf Sulphur Executive Dies

Frederic Juenger, traffic manager of Texas Gulf Sulphur Co. for 27 years, died Oct. 21 in New York.

Born in Houston, Texas, in 1883, Mr. Juenger was employed by railroads in that city and later by Southern Cotton Oil Co., before joining Texas Gulf Sulphur.

Stowe-Woodward Officers

William E. Greene has been elected chairman of the board of Stowe-Woodward, Inc., of Newton Upper Falls, Mass.

Fletcher P. Thornton and Oliver P. Arnold were elected vice presidents.

Mill Burns

The St. George, New Brunswick, mill of St. George Pulp & Paper Co., was destroyed by fire recently

WE ARE PROUD to have supplied all important conveyor belts for Weyerhaeuser's new barking-chipping plant at Longview.

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Talk at Princeton

Vice President James Killen of the Pulp, Sulfite and Paper Mill Workers, AFL union, who was formerly connected with Pacific Coast mills, discussed recent union developments in a talk given at Princeton University before a special labor relations class in which a group of industrialists were enrolled.

Mr. Killen is serving on the laws committee of the AFL, in which his union ranks 21st in size.

Bowater's Newfoundland Announces Promotion

Gerald Penney, formerly general mill superintendent for Bowater's Newfoundland Pulp and Paper Mills, Ltd., at Corner Brook, Newfoundland, has been promoted to mill manager, and V. J. Sutton, formerly technical superintendent, has been made assistant mill manager, according to announcement by H. M. Spencer Lewin, vice-president and general manager.

ENGINEER WANTED

Required for permanent employment in Newfoundland Graduate Mechanical or Civil Engineer for development and general engineering work for woods operations, involving an annual cut of 600,000 cords of pulpwood. Good salary and opportunity for qualified engineer. Applications should be sent to Bowater's Newfoundland Pulp and Paper Mills, Limited, Corner Brook, Newfoundland.

To our many Friends, we again wish a Joyful and Happy Holiday Season

EQUIPMENT-RAW MATERIALS
For Pulp and Paper Mills
MACHINE CLOTHING-SUPPLIES

Pacific Coast Supply Company
 SAN FRANCISCO PORTLAND

McMaster Moves Office in Portland, Ore.

Leonard McMaster, Pacific Coast Representative for Asten-Hill Mfg. Co., Orr Felt & Blanket Co., Chromium Corp. of America, and other companies has moved from his office on the roof of the Pacific Building in Portland, Ore., to Room 244 in the same building.

His new telephone number is Broadway 8752.

San Francisco Men Form New Group

The San Francisco Paper Mill Representatives Club has started off in good shape, holding its second meeting Oct. 25, with John T. Kumler, Pioneer-Flintkote Co., acting as secretary and chairman.

Purpose of the organization is to promote good fellowship among paper salesmen in the San Francisco Bay area. Al Armitage, West Virginia Pulp & Paper Co., is treasurer.

Selection of a permanent place for meetings has not yet been determined, although the group plans to meet at noon the last Friday of each month. All paper mill representatives are welcome and should notify Mr. Kumler at Sutter 7571.

Rayonier Moves Seattle Office

Rayonier Incorporated has moved its Seattle office from 438 Henry Bldg., to 518 Skinner Building—one block to the east.

Among office personnel there are Morton Houston, Northwest representative, and John Sullivan, purchasing agent for the Northwest mills.

To Increase Bags By Half Billion Annually

Increased production of 500,000,000 multiwall paper bags annually will be made possible through planned expansion at the Florida properties of the St. Regis Paper Co., Roy K. Ferguson, president, told a meeting of the Rotary Club here today.

Mr. Ferguson, accompanied by the company's executive staff from New York, spoke at the meeting in connection with the recent merger of St. Regis and Florida Pulp and Paper Co. interests headed by James H. Allen.

Through this merger and plans of Alabama Pulp and Paper Co., in which St. Regis has an equity, \$10,000,000 kraft paper mill at Pensacola, "we are assured of a kraft paper center here in Pensacola capable of turning out 400 tons a day," Mr. Ferguson said.

W. S. Brooks Elected

It is announced by Powell River Co. that William S. Brooks, Vancouver, B. C., has been elected a director of the company to fill the vacancy created by the death of his father, the late S. D. Brooks.

North American Cynamid Opens Canadian Offices

Calco Chemical Division, North American Cyanamid, Ltd., has been formed to distribute a complete line of dyestuffs, pigments, chemicals and intermediates to the paper, plastics and other industries in Canada. Inquiries may be directed to offices at Victoria Ave. at Bute St., St. Lambert, Montreal, or Royal Bank Bldg., Toronto 1.

LeRoux Find Home

Russell J. LeRoux, who recently returned as manager of the Everett, Wash., mill of the Pulp Div., Weyerhaeuser Timber Co., after a year in the Wisconsin industry, has purchased a house on 10th and Grand Ave. in Everett. He and Mrs. LeRoux have moved into it after a short apartment sojourn.

Wood Supt. for Sorg

William Burgon, formerly in the pulp industry in Ontario, has assumed his new duties as pulpwood superintendent for Sorg Pulp Co., Vancouver, B. C.

Binzer Elected

Harry A. Binzer, secretary of the Puget Sound Pulp and Timber Co., was elected Washington state senator from the 42nd (Bellingham) District.

Robbins Family Increase

Dan Robbins, assistant engineer at Puget Sound Pulp & Timber Co., and Mrs. Robbins have a daughter, Ann, born Oct. 16 at Bellingham, Wash., their third child, the other two being boys. Grandfather of the trio is Harry M. Robbins, vice president of the company.

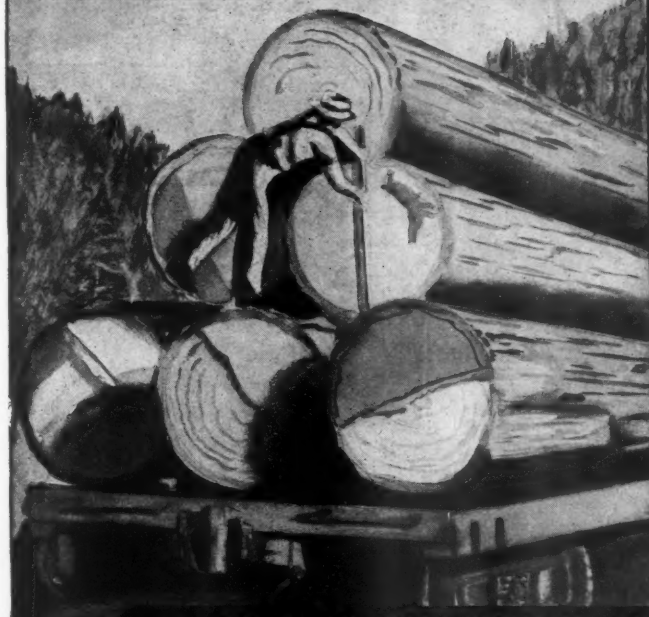
Toronto Man in West

J. A. Northey, head of the Telfer Paper Box Co., Toronto, was a recent visitor to British Columbia.

Woodfire Barking Plant

Foundations are now being prepared for a modern new steam power plant and Canadian Sumner hydraulic barker at the Woodfibre (B.C.) mill of B. C. Pulp & Paper Co. Three ship storage bins are nearing completion there.

PULP and PAPER



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Turkey Dinner Is Paper Packaged

A new frozen food item, developed by Maxson Food Systems, Inc., of New York—sliced turkey and dressing with gravy—has come through test marketing with flying colors and now is being made generally available to the housewife through stores. It is packaged in a paper envelope and two servings are packed together in another cardboard box.

This is the second single package item of frozen foods developed by Maxson. The first, frozen French fried potatoes, have reached distribution in all parts of the country and, in addition to the 10-ounce package put up for the housewife, are also being packed in 2½ pounds for restaurants, hospitals, clubs, and the like.

Maxson's is the company which has provided some 500,000 complete frozen meals served all over the world by Naval Air Transport Service and by Pan American World Airways which were shown in the cover picture of the March 1946 PULP & PAPER INDUSTRY and described in an article in that issue. Similar service has been contracted for, in the last several days, by Northwest Airlines, Royal Dutch, and Swedish Intercontinental.

The turkey item, which required many months of test-kitchen experimentation at the company's Queens Village, Long Island, plant, has achieved such encouraging popularity that distribution is fanning out swiftly from New York. Each envelope contains a portion weighing 6 ounces, constituted of turkey, dressing, and giblet gravy. Two 6-ounce servings are packed together.

Quist Joins Powell River Co.

Sven Quist has joined Powell River Co. as project engineer at the Vancouver, B. C., head office. He was formerly with John Stadler, consulting engineer in Montreal, and has had a wide experience in the industry.

The corresponding resident position at Powell River, B. C., is held by Ronald Stewart. Both Mr. Stewart and Mr. Quist are primarily engaged in engineering in connection with Powell River's extensive construction program. They are under H. Moorhead, resident engineer, who in turn serves under P. R. "Dick" Sandwell, chief engineer, Vancouver.

Bergstrom Installs Jones-Bertrams Beaters

Bergstrom Paper Co., Neenah, Wis., has installed two 2,000-lb. Jones-Bertrams patent beaters, made by E. D. Jones & Sons Co., Pittsfield, Mass., to replace a number of old beaters.

These new beaters are of latest design, including stainless steel tub, and pneumatic control equipment.

Seek Tannin Market For Pulp Mill's Bark

The Oakex Co., with an Arcata, Calif., and a San Francisco office, producers of pure California Oak extract for tanning use, has recently procured hemlock bark from the Lebanon, Ore., mill of Crown-Zellerbach Corp. for the purpose of producing tanning extractives commercially if the process proves economically feasible.

Swenson Spray Dryer Research Building Is Ready

The Swenson Evaporator Co., Harvey, Ill., has completed a new Spray Dryer Research Building which houses what is claimed to be the world's most advanced spray dryer research facilities.

The new Swenson Gray-Jensen spray dryer research equipment is ready for experimentation with any pumpable and dryable substance. Originally used to dry skim milk, it has been adapted to chemicals and by-product recovery aid drying of both organic and inorganic materials. More details may be obtained by writing for Bulletin D-101.

M. & O. Increases Employee Benefits

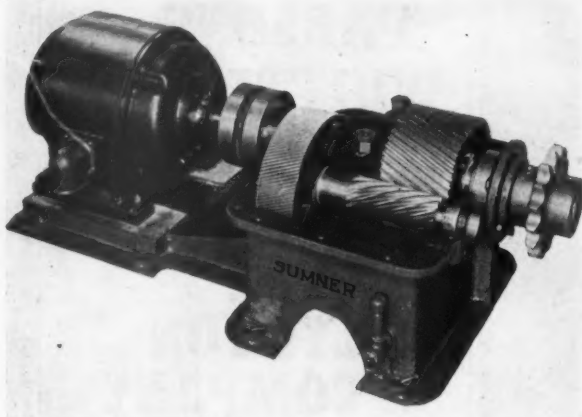
Under the Minnesota and Ontario Paper Co. plan of employee benefits, in effect a year, weekly accident and sickness payments now have been increased from a maximum of \$15 weekly to \$20 weekly which represents an increase of one-third. Hospitalization phases of the Plan have been made more liberal.

Seattle Appointment

A. W. Akers, manager of the Seattle division of the Zellerbach Paper Co., announces appointment of George L. (Les) Areman as manager of the resale merchandising department of that division.

Consultant Dies

Harold W. Nightingale, scientific consultant to Crown-Zellerbach Corp. and Rayonier Inc., died Oct. 20 in Seattle. Born in Boston, he was a graduate of Massachusetts Institute of Technology.



TYPICAL SUMNER HELICAL GEAR SPEED REDUCER
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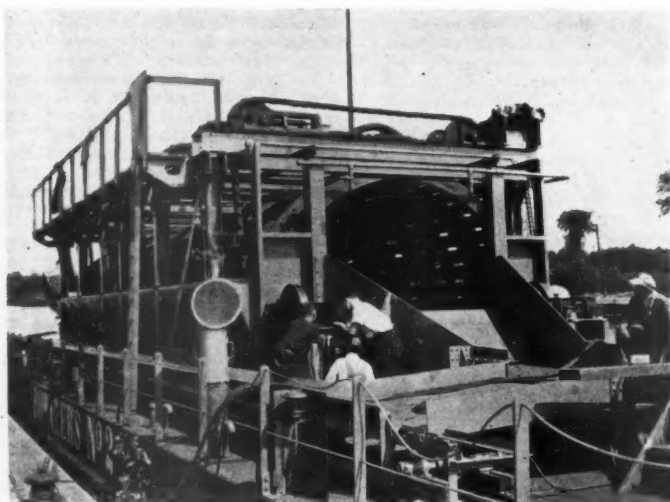
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